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**Original Lectures.**

ON DR. BROWN-SÉQUARD AND HIS RECENT  
LECTURES.

A LECTURE DELIVERED BEFORE THE CHICAGO MEDICAL SOCIETY, MAY  
6TH, 1878.

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MR. PRESIDENT AND MEMBERS OF THE SOCIETY:

This evening it is my purpose to review briefly certain of the positions taken by Dr. Brown-Séquard, in relation to the physiology and pathology of the nervous system, more particularly as set forth in a course of lectures delivered by him recently in this city. I do this for several reasons: because I deem many of the positions taken thoroughly erroneous, because they seem to be in direct variance with the best teachings upon the anatomy and physiology of the nervous system, because these erroneous notions are stamped with the great authority of Dr. Brown-Séquard, and because they were delivered before an unusually large audience of medical men, such as but few living persons could call together for the discussion of such a subject, and hence in

so far as the revolutionary views referred to may have been adopted by his audience, it may be assumed that the progress of a true knowledge upon the important theme to which his lectures related, may have been retarded.

No one has a greater measure of well-founded respect for Dr. Brown-Séguard than I have. For years I have read his writings and tried to understand his various and valuable contributions to physiology and physiological pathology. To untiring industry he has united great ingenuity in devising his experiments, far more than an ordinary caution in adopting conclusions, and no ordinary knowledge of the sources of error and conditions of success in physiological experimentation. In his earlier writings he is clear and consecutive in thought and statement, simple in style, and convincing in argumentation. In spite of a restless and unsettled disposition which has led him almost perennially from the United States to France, and from France to England, or *vice versa*, in spite of a comparative lack of pecuniary resources, and finally in spite of the fact that he has not been, by reason of frequent removal, long at a time able to occupy a professorial chair, which would have yielded a support and the means and leisure to prosecute scientific research, I say that in spite of these drawbacks, he has left indelibly his impress on the annals of physiology and medicine.

It is not my purpose this evening to try to recount the various contributions to physiology made by Dr. Brown-Séguard, even in relation to the nervous system. This will be a work for the future. His researches on the physiology of the spinal cord, constitute his chief and sufficient title to a place in the front rank of physiologists. The researches of no other physiologist in regard to the modes of action of the nervous system, no matter from what standpoint we may regard them, are entitled to a higher place. Then his researches into the physiology of the vaso-motor nervous system, into the nature of epilepsy, not to mention the trophic and temperature relations of the nervous system, are among his more prominent contributions to physiological science. By them he has been greatly honored, and will be always remembered. But it must be remembered that physi-

ology is even now a very imperfect science. Much as is now known, much is yet to be learned in the future.

Until within the past few years, Dr. Brown-Séquard was in accord with the general current of physiological thought. But for seven or eight years or about that time, he has abandoned many of his former notions, and is now apparently in almost complete disaccord with the latest, and what seem to be the best results of anatomical and physiological science, more particularly as regards the brain. The first general indication I remember to have seen of his change of view, was in the *Archives of Scientific and Practical Medicine*, a monthly journal which was started in New York several years ago, with Dr. Brown-Séquard as its editor, and which barely reached an existence of half a year and then expired. In that journal there was an article or two in which, in the form of a series of propositions, certain rather startling innovations in nerve physiology were promised. But the sudden decease of the journal, arrested their publication at that time. A little later, a lecture by Dr. Brown-Séquard was published in the *Boston Medical and Surgical Journal* for July 19, 1875, in which his promise was partly fulfilled. In that lecture, he especially devoted himself to the task of combatting the doctrine of a localization of function in the cortex of the brain, which subject had then begun to attract attention, through the earlier researches of Fritsch and Hitzig, and Dr. Ferrier. Soon afterwards he was found in Paris, where he became engaged almost by accident in a very elaborate discussion in the Biological society of that city, with Dr. Charcot, Dr. Luys, and others, all or most of whom took ground against him, Dr. Charcot from the clinical side, Dr. Luys from the anatomical, others from the physiological, and all with a result anything but favorable to Dr. Brown-Séquard. These discussions were reported at some length and discussed in my journal.

Subsequently Dr. Brown-Séquard went to London, and delivered lectures on the same subject, which were published in the *London Lancet*. Not long after this, lectures in substance the same, were delivered at New York and reported for the *Medical Record* of that city.

In all these lectures and discussions the chief themes were a

denial of the localization of functions in the cerebral cortex, an assertion of the doctrine rather than the fact, that motor conductors do not decussate at or below the "base of the brain," and finally the unlimited use of the principle of "inhibition," and its contrary, as a means for enabling him to explain a host of knotty questions in the physiological pathology of the brain. This has been the burden of all his recent lectures on these subjects, especially of those he gave in this city. To those who have been closely watching his course the past few years, his peculiar views as regards the physiology of the brain have ceased to attract serious notice. They are not shared, as a whole, by a single physiologist of eminence. But few clinicians and not one of marked prominence, fully shares his opinions. The anatomists are almost all against him or at least not for him. It must be remembered that Dr. Brown-Séquard is not an anatomist in the sense that he is a physiologist. In the latter province he is an authority, in the former he is not so. Since then, his peculiar views which have been so often published, and judged by the present notions which prevail in the physiological anatomy of the nervous system as I hope to show, are so far from the truth, it was with some surprise that I learned the *Chicago Medical Journal and Examiner*, usually so enterprising and alert, had concluded to publish the lectures.

The first question to which I would invite your attention is that of the decussation of the conductors of motor impressions, extending from the base of the brain downwards into the spinal cord. The common opinion has been, and now is, that motor fibers start—let us suppose—in the striate body in one side of the brain, and these pass downwards in the crus of the cerebrum into the pons varolii of the same side, and then either in the pons or the medulla, or both, they (the bands of motor conductors) cross over to the opposite side, so as to enter the opposite side of the cord, in such manner that the fibers—or at any rate, the same motor conductors—which arise in the right half of the brain, are found lower down, in the left half of the spinal cord, and so for the left half of the brain and the right half of the spinal cord. This I say has been and now is the common opinion, but it does not seem to be the opinion of Dr. Brown-Séquard. I will make a few extracts from his lectures, which go to show what are



his real views on this subject. Says he (*Journal and Examiner*, p. 292, *March*, 1878): "Since the time that paralysis has been observed to come usually in the side of the body which is opposite to that of the seat of the lesion in the brain, it has been considered that one side of the brain is the mover of the opposite of the body. *This I will contradict absolutely.*" "It was admitted for a long time ago \* \* \* that if paralysis comes on the opposite side of the disease in the base of the brain, it exists on the opposite side because decussation takes place only in the anterior pyramid, and produces paralysis on the opposite side, though there are exceptions. I will try to prove \* \* that *the views I have to propose are absolutely different from these.*" (P. 294.) The meaning of these passages and many more of similar import seems to be, that there is no decussation of motor conductors below "the base of the brain," as is almost universally held at this hour among competent anatomists, physiologists and clinicians. Let us examine this question with some little care, to see in what state it is.

That as a rule and as a whole, the conducting motor tracts from one side of the brain, decussate below the brain, so as to enter the opposite half of the cord, is rendered highly probable by the following:

1. *Anatomical Evidence.* Of course it will be impossible for me to enter now into this or any other kind of evidence in much if any detail, for such a course would require a course of lectures, rather than one lecture. But not to refer to any other writings or researches at present, I would call to your minds the comparatively recent work done by MM. Sappey and Duval, in regard to the fine anatomy of the medulla and pons, and "the course of the columns of the cord" through the same, as reported in various journals for the year 1876 (*Gaz. des Hôpitaux*, No. 10, Jan. 25; also, *Journal of Nervous and Mental Disease*, p. 324, vol. iii., 1876). No anatomical researches on these parts were ever conducted with more care or skill, or by more capable observers, and the results are clear and absolute as to the decussation of the conducting motor tracts in the medulla, but *only in part* where Dr. Brown-Séquard seems to assume that they pass, viz.: in the superficial or exposed parts of the anterior pyramids. Many if

not most of the fibers (or routes, whether fibers or cells) seem to decussate more deeply in the medulla. Hence the lack of value of many of the cases of superficial disease of the medulla and pons, on which Dr. Brown-Séquard seems to rely to prove that there is not a decussation of motor conductors, where it had been formerly supposed solely to occur. But more of the applications of anatomical facts hereafter.

Then again the same subject has been carefully examined from many points of view, by Dr. Flechsig, of Leipsic in a recent work (*Die Leitungsbahnen im Gehirn und Rueckenmark des Menschen auf Grund Entwicklungsgeschichtlicher untersuchungen dargestellt von Dr. P. Flechsig. Mit 20 Tafeln.* p. 383 Leipzig, 1876,) and in subsequent publications his views are essentially confirmed. The conducting motor tracts according to Dr. Flechsig *do* decussate, with certain partial and rather rare exceptions (in man). In fact the *anatomical* evidence worthy of the name is all in favor of the decussation. I could fill page after page, with quotations from the works named, and many others not less respectable and conclusive, but I do not have time to go into details. This statement is not made, of course, as an excuse for not giving the facts *in extenso*, for, they can be produced when time and opportunity admit. The anatomical evidence is conclusive, as far as could be expected.

2. *Physiological evidence.*—This is quite extensive and at the same time, in the main, conclusive. I can do no more now than refer to that which seems most important. First of all I would refer to certain facts which it may be said Dr. Brown-Séquard himself, discovered. I now refer to his researches on the spinal cord. Among other facts established by his researches are the following:

If a complete lateral hemi-section of the cord is made, in any part of its course, let us suppose at the summit of the cord prior to its transition into medulla, the following circumstances among others, invariably appear; paralysis of the motion of the muscles of the members on the same side as that on which the cut is made, or at least paralysis of all muscles on the same side, which receive their motor nerves from the cord below or behind the section, and a corresponding paralysis of sensibility on the *other side* of

the body—or that opposite to the cut, and to the motor paralysis. These phenomena invariably occur as consequences of a complete lateral hemi-section. They were very properly held by Dr. Brown-Séquard, to indicate that the sensory fibers of the spinal nerves (posterior roots) decussate in the cord, soon after they enter it, so that the sensory nerve fibers which go from the right side of the body, cross over the middle line and ascend in the left half of the spinal cord towards the brain. This fact was established in various ways, and is now no longer in doubt. The sensory conducting tracts, *do decussate* at all heights in the cord, soon after they have entered it, from the posterior roots of the spinal nerves. Do the motor conducting tracts also decussate in the cord, following the example of the sensory tracts? Most certainly not. The same experiments which prove that the sensory tracts do discussate, prove in the most conclusive manner that motor conductors do not. If they decussate at all it must be above the cord, for in the latter, the sensory conductors for one side of the body and the motor conductors for the other, are found on the same side of the cord. Three courses of supposition are now open to us: Either the sense conductors from the right side of the body go to one side of the brain, and the motor conductors for the right side of the body go from the other side of brain, as compared with the sense conductors, or the sense conductors after having crossed over in the cord, cross back again “at the base of the brain,” so that the sense and motor conductors for one side of the body may be at last conjoined in the brain as they are separated or on opposite sides in the cord, or finally we must suppose, that there is a decussation of motor conducting tracts above the cord and below the brain. We must adopt one or other of these views. The first no one would think of maintaining, save in the most exceptional cases, in the present state of nerve physiology. The second supposition would be even more difficult than the former to reconcile to our existing knowledge. The third supposition is the common one entertained to day, and has been for a long time past. Besides these suppositions, I do not know of any others which are even probable. This latter supposition is strongly supported, by many well established facts both in physiology and pathology.

If Dr. Brown-Séguar has collected "right and left," two hundred cases of brain disease causing paralysis on the same side as the brain lesion, three times that number, at any moderate estimate can be shown, in which the opposite is true—lesion in one side of the brain with paralysis in the opposite half of the body, and among these cases are very many, in which the same lesion in one side of the brain has caused not only motor paralysis on the opposite side of the body, *but also a sensory on the same side as the motor paralysis.* This class of facts is well known, and shows that though the sensory and motor conductors for one side of the body, are on opposite sides of the cord, *that when we come to the brain they are on the same side, and hence there must have been a decussation above the cord.*

Then again it is true, that in experiments on the brains of living monkeys, not to mention animals below them, experimental injuries made on the right side of the brain for example have in almost every case been followed by paralysis or convulsions, *in the opposite side of the body.* This has been the uniform experience of almost every one, save Dr. Brown-Séguar. Dr. Ferrier, of London, who has conducted a greater number of experiments on monkeys than any other man, which animals so nearly approach man in their nervous organization, *has always found* paralysis to occur on the side opposite to the lesion. What do such experiments oblige us to suppose? A decussation of motor fibers, (or conducting tracts) to the opposite side, which is what Dr. Brown-Séguar strangely enough seems to deny.

Here again pathological cases are exceedingly numerous, twenty to one of Dr. Brown-Séguar's cases, which show in all desirable plainness that a lesion in the base of one side of the brain causes motor disturbances in the opposite half of the body. And many of these cases are among the most recent and most carefully observed. They so far outweigh in number and trustworthiness the cases relied on by Dr. Brown-Séguar, in support of his views, that one is led very naturally to consider his cases as either inaccurately reported, or simply anomalous. Now what are the facts on which Dr. Brown-Séguar relies, to induce us to set aside the evidence I have hinted at, as supporting the view

that a decussation of motor conductors takes place above the cord, and below the brain?

In the *London Lancet*, (*On the Appearance of Paralysis on the side of a Lesion in the Brain*, by C. E. Brown-Séquard) for April, 1876, is a lecture, by Dr. Brown-Séquard, in which he gives the literary references to many of his cases. In that lecture he says, "I may startle many of my hearers in stating that I have collected *more than two hundred* of such cases [of paralysis on the same side as the lesion.] Burdach, out of 258 cases of paralysis in one-half of the body, states that there were fifteen on the side, and 243 on the opposite side of a lesion in the brain. W. Nasse, besides the fifteen cases of Burdach, knew of 26 cases of paralysis on the injured side in the brain. In two good papers by Bayle and Dechambre, not more than ten or twelve cases are pointed out. The 200 I have collected do not include those of Nasse's list (at least most of them), as I have not been able to procure the paper of that learned physician." (P. 146 *Lancet*.)

But the 200 cases of Dr. Brown-Séquard in all probability include those of Burdach, Bayle, Dechambre, Gintrac, etc. Now I have been at the pains to examine the reports of many of these cases, and among them those of the paper of Nasse (*Ueber die sogenannte gleichseitige Hemiplegie. Von Werner Nasse, in Bonn. Allgem. Zeitschr. f. Psych. etc. Bd. 6, 1849, S. 384-412*), especially to ascertain the sources from whence they drew their materials. The first cases are from the work of Morgagni (*De Sedibus et Causis Morborum, Op. lvii., 14*). Valsalva and Morgagni, it seems, were able to collect eight original cases in all. Next Bayle, in 1824, published a paper, in which seven cases were mentioned, *six of them the same* as had been already mentioned by Morgagni. Then, of the fifteen mentioned by Burdach, two of them, at least, occur in Morgagni's list, while of the ten cases cited by Dechambre, *eight had been already mentioned by either Morgagni or Bayle*. Of the cases published by Andral—sixteen in number—*nine had been already mentioned* by one or other of the earlier writers mentioned, leaving only seven new cases, and two of them oral.

Thus we have 32 cases, and to this number 26 are added by Nasse, after a most painstaking review of medical literature.

Nasse's collection added to the previous one gives us 58, so that either Dr. Brown-Séquard must have found some new cases prior to 1849, or since then he must have found in more recent literature about 150 new cases. But from the references contained in the lecture in the *Lancet*, it would appear that most of the cases among the 200 are old, and as I know from having read the original accounts of many of them, are very imperfectly reported, and are hence absolutely devoid of solid scientific value. I have no fear whatever that this statement will be successfully contradicted by a recital of the cases. As it is obviously impossible to go far into details, I will limit myself to two of the best and most recent cases, depended on to show there is not a decussation of the motor conductors in the medulla. Assuming that the place of decussation of motor conductors is between the anterior pyramids of the medulla, and there alone, Dr. Brown-Séquard quotes two cases from Prof. Vulpian (see his *Leçons sur la Physiologie Générale et Comparée du Système Nerveux, etc.*, Paris, 1866. P. 492-494), of disease of the anterior pyramids, without the paralysis being present which should have been, if the anterior pyramids had contained the motor conductors, as was formerly supposed.

I will recite the best one of these cases *verbatim*, so you can see for yourselves what it amounts to. The first was as follows: "In a woman aged 82 years, and who showed no appreciable paralysis, the autopsy (no account of what the woman actually died of) revealed the evidence of a lesion of the pons and of the anterior pyramids. There was at the anterior part of the under surface of the pons an irregular, hemispherical cavity, with grayish walls, about half a centimetre in diameter, and from five to six millimetres in depth, and containing a transparent liquid. Beyond this, there was a *very slight* loss of substance, on the inferior surface of the left cerebral peduncle, five or six millimetres from the anterior edge of the protuberance. The two anterior pyramids presented a manifest atrophy, more deep on the right than the left. On the left side the lesion was very superficial, involving only the external part of the pyramid, where there was to be seen a very small, narrow band, of a grey color, formed by altered fibers. But the atrophy of the right pyramid *appeared* to be complete, its prominence being much diminished and being of a grayish yellow color in its whole



thickness. *No microscopic examination was made of such a character as to determine whether or not there were yet healthy fibers."*

The other case is not so important even as this one, except that a more careful microscopic examination was made. But take the case I have just quoted and consider it a moment. *It is not certain* that the whole thickness of the right pyramid was destroyed, and the left is known not to have been. But if it had been, the whole of the motor conducting tract, according to our present knowledge, would not have been destroyed, and hence the case, though interesting, is, for exact scientific purposes, worthless. And I speak advisedly when I say to you that there is probably not one of his 200 cases free from serious objections of a similar kind. What kind of a basis, then, does this afford for founding a new and revolutionary doctrine, such as Dr. Brown-Séquard has announced? The cases collected by Burdach were 258 in number (*Vom Baue und Leben des Gehirns Bd. iii. S. 368. Leipzig, 1826*), and *only fifteen* appeared to be cases where paralysis was on the same side as that of the lesion—or *one case in seventeen of hemiplegia*. So, according to the old table of Burdach, the cases on record of crossed as compared with direct hemiplegia, were as 17 to 1. I am prepared to say now, that there are 30 cases to one at present on the records. If so what shall we think when it is learned that none of Dr. Brown-Séquard's cases are critical when many of the other kind are critical. The immense preponderance of the crossed to the direct cases, is alone sufficient to throw a fatal suspicion on the one case which appears to be different from the other thirty.

[TO BE CONTINUED.]

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A NEW MUCILAGE.—The *Journal de Pharmacie* states that if, to a solution of gumarabic, measuring  $8\frac{1}{2}$  fluid ounces, a solution of 30 grains of sulphate of aluminum, dissolved in two-thirds of an ounce of water, be added, a very strong mucilage is formed, capable of fastening wood together, or of mending porcelain or glass.

## Original Communications.

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### PRECOCIOUS AND OTHER PHENOMENA OF SEXUAL ORGASM.

BY JAMES NEVINS HYDE, CHICAGO.

In the light of recent observations, few will refuse to admit that sources of irritation in the external genitals, may induce reflex disorders of the most varied and exaggerated character. In a recently-published paper <sup>(1)</sup>, I endeavored to describe some of the consequences of præputial stenosis, with its complications of retained smegma, etc., and briefly alluded to the results of stenosis of the urinary meatus.

In the present article, I desire to adduce some observations made by myself and others, which serve to illustrate the centric, rather than the excentric, origin of certain precocious and other unusual phenomena of sexual orgasm, in infancy and youth. Without question, it is far more easy to decide that these are the results of influences operating at the nervous centres, than to decide as to the nature of such influences. In one case, certainly, I think it will be seen that hyperæmia of the nervous ganglia at the base of the brain, was an important factor. In others, the same results may have been due to disturbance in the nutrition of these ganglia, or to obscure states of exalted irritability of the sensory portions of the brain, spinal cord and peripheral sensory nerves, or to changes in the vascularity of the cerebral or spinal meninges, or to changes in the quality of the circulating fluid itself. In two instances, a strong probability is suggested that

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(1). Præputial Stenosis: its possible complications and consequences. *Ch. Med. Jour. & Ex. Ap.*, 1877, p. 295.

the morbid conditions of the nervous system were the result of hereditary influence.

Without attempting to discuss this question, whose solution must depend upon the accumulation of many more facts and anatomico-pathological data, I proceed to the consideration of the phenomena themselves.

In the early part of April, 1878, Dr. A. B. Newkirk, of Hyde Park, Ill., described to me, in the course of a conversation, certain peculiar symptoms of an obscure character, which were displayed by two young patients in his professional charge. It occurred to me that his description was in many particulars identical with that given by Prof. A. Jacobi, of New York, in his admirable monograph, entitled, "On Masturbation and Hysteria in Young Children," <sup>(1)</sup> where the details are given of several cases, one of which in this connection has a special interest. I suggested to Dr. Newkirk that he procure and read the paper referred to; and this he not only did, but became convinced, after further observation of his patients, that our suspicion as to the character of their disorder was not without foundation. He further kindly invited me to join him in making a careful examination of the children, and permitted me to publish the results.

The father of the little patients, whose cases are briefly described below, is 38 years old, slender in frame and of a nervous temperament. He has always enjoyed good health, never having suffered from any severe disease nor grave lesion. The mother, 31 years of age, is also of nervous temperament. She is slender in frame, but her cheeks exhibit the red hue of health. Since youth she has worn glasses to correct myopia, but, like her husband, she has never had any disorder originating in the nervous centers, nor other serious disease. They have been married eleven years, and the two children, named below, are the sole fruit of the union.

The eldest of these latter, R. J., æt. six years, was brought into the world after natural labor, enjoyed invariably good health

(1). Reprint from the *Amer. Jour. of Obstetrics and Diseases of Women and Children*, Vol. VIII., No. 4, Feb., and Vol. IX., No. 11, June, 1876.

up to the age of six months, and, with the single exception of what was called "scarlet rash," has had none of the diseases of infancy. At this time, his mother first noticed the occurrence of the peculiar symptoms since exhibited. The baby, whether seated in its crib, on the floor, in its high chair, or even when placed upon its hands and knees, would suddenly become rigid. His expression would be that of one "abstracted,"—his gaze fixed. The hands, in which his toys happened to be held (on the first occasion, when observed, a clothes-pin was grasped), were firmly and forcibly closed upon the objects which they contained, to such an extent that they could be removed only with considerable difficulty. The body and limbs also became rigid, and the thighs crossed, the one over the other. He would then "work himself" for a longer or shorter period of time, when a copious perspiration would occur, and the scene be ended. Usually this was succeeded either by sleep or by a complete return to the natural expression and behaviour of the infant. These phenomena were never observed during sleep; just before he slept, however, and immediately after awaking, they might generally be expected.

When the child was in this condition, the act was immediately discontinued if he were suddenly and rather sharply addressed, or if his attention were diverted by the approach of strangers, the offer of toys, etc., or if he were taken up in the arms. So soon, however, as the attention ceased to be thus diverted, the child usually relapsed into the same condition. As to the intervals between these attacks and their relative frequency, no very precise information could be obtained.

The mother hoped that she would notice some change in this particular as soon as the first dentition was completed, and indeed was encouraged in this hope by those whose advice she had sought. When the infant was eighteen months old, he was weaned; and then occurred the longest interval between the accesses which up to that time had been noted—a period of four weeks. Meantime the child had learned to walk. Soon, however, after the eruption of the eye and stomach teeth, the phenomena described above recurred, and have continued with various intermissions, worse in the summer than in the winter, up to the present time.

Latterly the boy displays these symptoms, in and out of doors, without regard to the presence of strangers, on the floor, on the ground, and, on several occasions, upon the broad top of the fence in front of the house. The only difference noted, between his condition at the time of these occurrences and that observed in infancy, is that his limbs are crossed in a more marked manner. On one occasion, when observed by Dr. Newkirk, he was on his hands and knees upon the floor, the trunk supported entirely by the hands, and the right leg thrown over the left so as to forcibly approximate the thighs: posteriorly the body was supported on the left knee. In this position, a certain degree of twisting or swaying motion was perceptible, followed by perspiration and sighing, when the acts were discontinued. At my request, the boy assumed the precise position described, when upon the floor: and also upon a low arm-chair, when his knee rested on the seat and his hands clutched the arms.

The only result noticed by the parents was a change in the child's temper. When aroused from the peculiar state indicated, he seemed cross and irritable, though at other times he possessed a cheerful and happy disposition. He had been rarely seen handling the penis — so rarely, indeed, that they were sure no such habit existed. There had never been dysuria nor nocturnal diuresis, to an extent greater than that noted in healthy children. Once or twice only, had he complained of "soreness" about the genitals, which always proved to be temporary in character. At one time the mother thought she noticed a tendency to stumble when walking, but this also had ceased to attract her attention.

During the last few years the habit had not to any marked extent either increased or decreased. At one time during the last summer, the father had taken the child with him out of doors for play, while the former was engaged in his usual occupations, and he then noticed that sometimes for an entire day the boy would seem to be engaged in the performance of the act. The mother stated that occasionally for months at a time, he would seem to her to be engaged in nothing else.

When examined, the lad was found to be a blue-eyed and light-haired child, with well-developed head, body and limbs, intelligent expression, red cheeks and vivacious demeanor. His

teeth were normal, axes of eyes parallel, senses perfect, and his health without the slightest evidence of impairment. In stature, weight and nutrition, he was entirely normal. There were no evidences of genital irritation, the prepuce was permeable by the glans, free, not redundant nor pocketed. His urine also was normal and passed without straining. Dr. Newkirk agreed with me in declaring that we could discover no symptom of ill-health nor lesion, with the single exception of a slight tendency to genu valgum, which, under other circumstances and in another child, would certainly have escaped notice. His appetite was good, bowel-dejections normal and regular, sleep undisturbed. His mother complained only that he was "restless and nervous."

The second child, G. A. J., æt. 17 mos., had a history not unlike that of his brother. He was brought into the world by natural labor, had never suffered from infantile disease, and, until he arrived at the 9th month, had never displayed symptoms which aroused special attention. At that age, however, his mother noticed at times certain singular manifestations, which she thinks would not have especially interested her, if she had not observed something similar in the case of her first infant. When the baby was left alone in the crib, it would occasionally assume the fixed and abstracted gaze described above, and its little limbs become rigid, but the lower extremities, instead of being crossed so as to approximate the thighs, as in the case of the brother, would be firmly extended and separated. At the same time, the opened hands were pressed, palm downward, into each iliac fossa. After a few moments of accelerated respiration, and very little if any facial and bodily movement, copious diaphoresis would ensue, and the child would either sleep or resume its natural aspect and demeanor. Most frequently these acts would occur just before the infant was placed in its crib for the purpose of taking his daily nap, but, from first to last, the attacks have proved much less frequent, prolonged and intense than in the first case. However, during some weeks, accesses of the same character would occur once in each day.

The child occasionally wet its bed—not oftener, however, than other children of the same age; and did not strain when urinating.



When examined, it was found to be a blue-eyed and light-haired infant, very well nourished and developed, of nervous-lymphatic temperament, its cheeks somewhat less rosy than those of its brother. It was able to sit up and to propel itself on the floor in various methods, chiefly by dragging the body forward, when in the sitting posture, by alternate flexion and extension of the legs. Dentition had progressed favorably; there was nothing abnormal about the genitals. The expression was intelligent, the axes of the eyes parallel, the senses unimpaired. In brief, the most careful examination failed to detect any evidence of perverted function, disease or deformity.

In order to exhibit to the reader the similarity between these histories and the observations of Dr. Jacobi, I append a brief abstract of the most noteworthy of the cases recorded by the latter:

A female child was healthy during nine months, after which teething commenced. At the fourteenth month, she had nine teeth, and the dentition was unaccompanied by pain or constitutional disturbance. At this age, slight indications of nervous trouble were noticed when the child was lying in its mother's lap. She suddenly became pale, had a peculiar dazed expression, and her attention could not be readily attracted. When raised up and moved, she immediately became natural in looks and action. This was repeated only a few times, when the attacks changed in character. In addition to the appearance of the countenance already described, there much muscular rigidity: the arms became quite stiff, and strongly resisted being flexed: the hands were clenched, and the little fists firmly pressed into the iliac regions on either side. At the same time the legs were strongly extended at right angles to the body, and there was a strong contraction of the abdominal muscles and a straining as if at stool. If the child were held against one's breast, she made strong pressure with the knees and up and down movements of the body. After a short period, a moment or two, the respirations were quickened to a rapid panting, and perspiration started freely from the head and stood in drops about the mouth. The attacks often terminated in sleep. There was at no time any spasmodic or convulsive movement, or unconsciousness or mental

disturbance beyond an apparent abstraction. The attacks occurred irregularly, with intervals of some days, or many times a day for several days in succession, and sometimes for two or three hours with but slight intermission. They never came on during sleep, but usually when the child was sitting on the lap, and occasionally when on the bed or floor. If she were placed on the floor early in the attack, and amused with her playthings, it would frequently be broken up; if however, she were held till it was fully developed and then put down, she would lie upon her side and the attack would progress as described.

The symptoms described in another case, that of a girl three years old, were, redness of the face, slight twitching about the eyes, and an occasional deep sigh, the attacks occurring when the child was playing upon the floor or crouched upon a chair. The accesses never occurred in sleep, or when walking, playing or tossing about. She was apt also to cross the legs or closely join the thighs. After violent friction of the limbs, with hurried respiration and purple hue of the face, the act was completed with perspiration and sighing.

Similar symptoms were displayed by a little boy, who would seat himself on the floor, stare upwards and commence a kneading exercise by means of his two little fists directed against his privates, which his nurse thought "very cunning." In this case, however, there were symptoms of vesical catarrh and enuresis.

The following points are noteworthy: 1. The early age at which the orgasmic phenomena were first observed in Dr. Newkirk's cases, earlier in fact than the ages recorded by Dr. Jacobi, and, so far as I am aware, the earliest on record. 2. The almost imperceptible effect of the long continued orgasmic excitement upon the well-being of mind and body, in the cases here first reported. Without repetition, it may be briefly said on this point, that the children in every particular did not come short of a high standard for the average mental and physical attainments of other children of their own age. 3. The co-existence of two rare cases in one family. This would tend to excite a suspicion of hereditary influence. It has been seen that the parents were both of a nervous temperament and slender frame. They had had but two children during eleven years of married life. Upon

this point, of course, an opinion can only be expressed with reserve. 4. The very remarkable correspondence between the phenomena in all the reported cases. They do not differ by as much as many other diseases of the same name in different individuals. A description of one would answer fairly well for the others.

It should be added that with the judicious administration of camphor bromide, and a pursuance of orders to break up every attack when possible, the children have been gradually improving under Dr. Newkirk's management.

How far attacks similar to those described, and long continued, might operate in laying a foundation for future disease, it is impossible to say. I am inclined to believe that the history of the later life of these patients, might throw some light upon the possible results of these early accesses. At the same time it is to be remembered that nature is wonderfully conservative, and never more so than in youth, when drafts may be made upon the nervous forces which would utterly prostrate the adult. I had recently under my charge a young woman fifteen years of age, who admitted that she had had intercourse with impunity sixteen times in twenty-four hours. She was suffering then from inflammation of the vulvo-vaginal gland. Another patient, a young man of twenty, assured me he had had intercourse twelve times between 3 and 6:30 p. m. of the same day. On the other hand, a gentleman, past the middle age of life, a widower and a grandfather, had several liaisons with women in his neighborhood. Soon afterward, he became an inmate of the Insane Asylum of California at Stockton, and the accomplished superintendent of that institution, Dr. G. A. Shurtleff, wrote me, under date of April 7, that the patient was affected with general paralysis of the insane — a terribly fatal disease, from which there is not one well-authenticated case of recovery on record. Very recently I had under charge, associated with Prof. E. L. Holmes, a gentleman of fifty, in good circumstances, whose sexual excesses had produced a large obstinate corneal ulcer, which threatened at one time to become perforating.

In the matter of diagnosis, I cannot think of any disease whose symptoms might be confounded with those described above,

unless it be chorea, and especially the hysterical and rhythmical forms recently described by Prof. Charcot, of Paris. (*Vide Jour. de Médecine et de Chir. Prat.*, t. 49, c. 4, Abstract from *Le Progrès Médical*.) Yet the latter have a marked individuality of their own. In rhythmical chorea, the head, trunk and limbs of one side of the body are incessantly agitated in alternate movements of flexion and extension, uniform and identical, the head bending on the trunk and the trunk on the pelvis. This occurs with mathematical regularity, night and day (except during sleep), when the subject is reclining or walking by the aid of another's hand, when the attention is fixed to, or distracted from any special object. The choreic movements, instead of resembling those of salutation, may suggest the motion of the blacksmith at his anvil, or the swimmer in the sea.

I have not given the name masturbation to the precocious orgasmic acts described above, simply for the reason that it does not seem sufficiently precise. Its etymology alone (*manus stupratio*) supplies the objection.

Allied to these instances are those of precocious puberty, menstruation and pregnancy. Cases are on record of menstruation at the 9th month, at one year, and at one year and a half; and of pregnancy in the 5th year (Mandelshof), in the 8th (Carus), in the 9th (Jaubert), and in the 10th (Sims). One such has recently been reported by Molitor of Oberspallen (*Bulletin de l'Acad. de Médecine de Belg.*) The child menstruated in her 4th year, and, in the 8th, aborted with a hydatid mole and embryo, after intercourse with her cousin, 32 years of age.

It is difficult to see why intra-uterine perturbations of the nervous ganglia of the fœtus, which may produce congenital talipes and unilateral skin lesions of tracts supplied by a single nerve or series of nerves, should not at times be capable of producing premature puberal epochs.

In 1876, Dr. G. H. Nuckols, of Kentucky,<sup>(1)</sup> reported the case of a male infant, born Dec. 31, 1875, of a mother who contracted

(1) This report first appeared in the *Louisville Medical News*, June 10, 1876, p. 295. I incorporated a brief abstract of the case in the *Digest of Literature of Hereditary Syphilis*, prepared for the *Archives of Dermatology*, Jan., 1877, vol. iii, No. 2. Prof. Auspitz, of Vienna, reproduced my abstract in the *Vierteljahrsschrift. f. Derm. u. Syph.*, J. iv, Hft. 3, p. 423, and added that "priapism would hardly accord with the existence of hereditary syphilis." Since then, however, Th. Bar.

syphilis four years previously, the father having never suffered from the disease. On January 2d, the penis of the infant was found to be erect and as hard as cartilage; it remained in this condition thirty days. Symptoms of hereditary syphilis were displayed in the tenth week. Rapid improvement occurred under specific treatment.

I was recently consulted by a young man from Indiana, J. M., of sanguine temperament, for the relief of nocturnal emissions. He was well developed in head, trunk and extremities, and had a particularly frank and engaging expression of countenance. The genitals were normal in size and configuration; præputial opening, ample; urinary meatus, admitting sound No. 25 of the French scale; urethra, not hypersensitive when traversed by the same instrument. He had been subjected to a triple process of starving, sweating and freezing in a neighboring "water cure," and I at once placed him upon a generous diet with roborant medication, till he greatly improved in health, and his cheeks became rosy. I could discern no special indication for treatment of the genitals, until he informed me one day that his losses at night were always produced by masturbation in sleep. He would be aroused immediately after each act, partially sensible of what he had been doing, and with unmistakable evidences about him of his mishap. He had never practiced masturbation when awake, had never used tobacco in any form, and although at one time he had indulged rather freely in liquor, the habit had been abandoned before his present troubles commenced. At the time of making this explanation, he in fact wore the red ribbon of the temperance agitators. When asked why he had not earlier explained the precise character of his trouble in answer to the rather minute inquiries put to him, he replied that he thought that the nocturnal pollutions of all men occurred in the same manner. As usual in such cases, these accidents occurred at irregular intervals—sometimes several times in the night, some-

low, of England, has found extensive nervous lesions in congenital syphilis, including new growths and gummata of nerves, atrophy of nerve cylinders, diminished lumen of cerebral capillaries, adhesions of dura-mater and arachnoid, exudation of greenish lymph, etc., changes capable of producing parietic priapism. I accept the great weight of Prof. Auspitz' authority in these questions, but believe that his statement, given above, requires qualification.

times on several successive days; occasionally with intervals of a week or two, rarely more.

On the 9th of March, 1878, after the production of anæsthesia, I perforated each side of the upper limb of his prepuce with a large triangular perineum needle and inserted a ring made especially for the purpose, of pure silver, leaving it *in situ*. This is very nearly the operation of infibulation, originally advocated and practiced by Celsus and his contemporaries, and still resorted to, I understand, by the superintendents of insane asylums in the treatment of the satyriasis of their patients. In this instance the ring was made with a peculiar lock, so that it could not only be fastened after its insertion but removed at pleasure afterward.

The patient returned to his home in Indiana and complained bitterly, in several letters, of disturbance at night and want of sleep in consequence of painful erections induced by the presence of the ring. I permitted him to remove it in fifteen days, when these troubles naturally ceased. On the 4th of May, he wrote that his habit had been broken up, and that he was, in accordance with my suggestions, contemplating matrimony.

A patient whose case presented some exceptional features, consulted me in June of 1877. He was 19 years of age, bilio-lymphatic temperament, and well nourished, his muscular system presenting an unusual development. The expression of his face was peculiar and not that of the average youth who masturbates, the peculiarity being due to an unusual prominence of the eyeballs. In consequence of this, the sclerotica was exposed in a wide ring about the cornea, highly suggestive of exophthalmos. He seemed quite intelligent and expressed the greatest grief over his condition.

He stated that when sixteen years of age he had, for a period of several months, made vain attempts at intercourse with a girl of his own age, whom he met in a clandestine manner almost every day. A necessary separation of the two occurred, and thereafter nothing unusual occurred, until in a few months he commenced to practice masturbation. These acts were repeated each morning, immediately upon his rising from bed, and were, as he stated, entirely beyond his control. They were



preceded by a severe pain in the head, usually, but not invariably occipital, and then he seemed to lose control of himself. Without the slightest degree of sexual or erotic desire, he at once proceeded to perform the act with violent and even furious manipulations. At first seminal discharges were induced, but these, in his brutal performances, were soon succeeded by blood, and thereafter, nothing but the discharge of blood relieved him. On these occasions he experienced not the least pleasurable sensation but on the contrary severe pain. His tongue was coated, his bowels constipated, his sleep disturbed, his urine acid and loaded with urates, pulse and temperature normal. There was slight seborrhæa oleosa of the surface of the skin.

His external genitals had not the relaxed and shrivelled appearance which is too often observed in the confirmed masturbator. The testes were not shrunken but firm and full, the prepuce, wide, not redundant, and worn back of the corona glandis. The meatus admitted readily a No. 23 sound (Fr.). Its removal after insertion was followed by blood, which escaped from the urethra, congested in consequence of the severe mechanical irritation.

The brother of this patient was taken into our confidence, and every morning afterward for a month, he roused the patient early from sleep, douched the head, neck and chest in an abundance of cold water, and after a generous friction of the surface with a coarse towel, superintended the patient's dressing and advent at the breakfast table. This, with the free use of the alkaline bicarbonates (I prefer the salt of potass), regular evacuation of the bowels under the influence of cathartics, and the occasional employment of the bromides of potassium and sodium, resulted in relief. Two months afterward, the patient presented himself in a greatly improved condition both of mind and body. He had had but one access since the inception of his treatment, and this had been broken up by his brother. He has not consulted me since, and I am led to think the success was permanent, as he seemed fully sensible of his improvement and grateful for the relief afforded.

I conclude with a brief abstract of a case which seemed to me, when I first read a report of it in 1876, strikingly illustrative of

the influence of centric disturbances in the production of onanism. The observation was made by Dr. Prevost, of Cambremer. (*L'Année Médicale, Caen*, No. 1, Vol II., p. 7, Dec. 1876):

X—, 22 years old, had an agreeable expression of countenance, brown hair, forehead slightly retreating, and was rather fully developed in the occipital region. He had left inguinal hernia, no prior interference with general health, and, though disposed to be isolated and taciturn, had a good reputation among his school-fellows. His parents were in robust health.

On Jan. 5, 1875, about 6 p. m., after a generous dinner, he retired to his room and locked the door. His mother, anxious in consequence of his behavior when at the table, followed, and through the keyhole saw him erect and fully dressed, engaged in the act of violent masturbation. This completed, he threw himself on his bed in his clothes and slept. The mother informed the father of what she had seen, and thereafter the young man was closely watched.

Nine days afterward, the patient left his friends at a picnic party in the woods, and this time the father followed him and witnessed the same scene as before. After returning home in the evening, the parent sternly reprimanded his son for his misconduct, when the latter informed him that he was very miserable, that for more than a year he had been subject to attacks of a furious sort in which masturbation became an irresistible necessity. He begged his father's forgiveness and promised that when he next had premonitions of his trouble, he would inform his friends, who might then secure his hands behind his back.

After dining on the 28th, he notified his father that he was about to be affected as before, and would soon be almost unconscious of what he was doing. His hands were immediately bound firmly behind his back, when he was at once seized with a convulsion that lasted for ten minutes. He fell to the ground, his respirations became accelerated, his face pallid. He also uttered hoarse cries in a strange voice. His father, thoroughly alarmed, hastened to liberate his son's hands, when the latter at once arose and in the presence of both his parents proceeded to perform the act of masturbation in the most furious manner, without pausing an instant. This over, he burst into tears, and concluded by

falling asleep as usual. Dr. Prevost, who was then summoned, ascertained that the young man had no sexual desires. The first intimation he would have of the access, would be an insupportable pain in the back part of the head, occurring sometimes an hour or two before, sometimes immediately after meals; then there would be an erection of the penis and unconsciousness of subsequent events, so that the presence of strangers presented no bar to the execution of the act. On one occasion of this sort, when observed by his physician, the latter describes his condition as disgusting in the extreme, his face pale, his features contorted, saliva escaping from his mouth—the very picture of a satyr.

Under treatment of various kinds, hygienic, medicinal and dietetic, attacks did not fail to recur with tolerable regularity, February 4th, 12th, 21st; March 1st, 7th, 16th, 23d, and at nearly equal intervals up to July 2d. At this time leeches were ordered to be applied to the nucha as soon as the pain was perceived. On July 11th, an access of intolerable pain was felt, and fifteen leeches applied to the back of the neck. The access was aborted. On August 1, recurrence of pain, re-application of leeches, no attack. This proved to be the last. Eighteen months after, the patient had had no return whatever of his former symptoms.

117 S. CLARK STREET.

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### CASES OF PURPURA HÆMORRHAGICA, WITH OBSERVATIONS ON THE PATHOLOGY AND TREATMENT OF THE DISEASE.

BY N. S. DAVIS, M. D., CHICAGO, ILL.

(Read to the Chicago Medical Society, April, 1878.)

Cases of simple purpura, or purple spots accompanied by moderate cellular inflammation and slight general febrile disturbance, are not very infrequent; neither is it rare to find cases presenting petechial and ecchymosed spots upon the cutaneous surface connected with various pathological conditions of the blood and tissues, of a temporary character. But cases of true purpura

hæmorrhagica arising from a more or less permanent hæmorrhagic diathesis, or what is called in the seventeenth volume of Ziemssen's Cyclopædia, hæmophilia, are fortunately, rarely met with. This is shown by the fact that Grandidier, who has given diligent attention to the literature of this subject, found only 631 reported cases prior to 1872, and Immermann, in his recent article has added only 19 more, making a total of 650 cases. During the twenty-nine years that I have practiced in this city, I have notes of only five well marked cases coming directly under my own observation. The first of these was a boy aged twelve years, who had commenced the trade of stone cutter, but of whose parentage or family history I obtained no record. At the time he came under my observation, he was suffering from extensive hæmorrhage into the skin and subcutaneous areolar tissues. He presented not less than four blood-tumors, hæmatoma, varying in size from one to six inches in diameter. The largest was on the posterior part of the chest near the lower angle of the scapula. Besides these tumors there were large numbers of ecchymosed and petechial spots, both on the body and limbs. He was tall, spare in flesh and moderately anæmic in appearance, but the action of the heart was increased both in force and frequency. He complained of great weakness, but had no external hæmorrhage. He began to exhibit the hæmorrhagic tendency when he was between five and six years of age. The slightest cut or injury would bleed in the most persistent manner; and any severe muscular exercise was sure to induce hæmorrhagic extravasations into the subcutaneous tissues. By rest, mild diet, and the use of astringents and tonics, he recovered from the attack for which he first came under my observation; but other attacks less severe occurred three or four times during the next two years, after which I lost all further knowledge of his progress.

The *second* case was a boy aged five years, brought to me from Peoria. He had had frequent and persistent attacks of both epistaxis and interstitial hæmorrhages for two years or more, and was at the time of coming under my care exceedingly feeble. He had an anæmic appearance; rheumatic pains in his limbs with some serous effusion into the synovial membranes of the knee and ankle joints; numerous petechial and ecchymosed spots in the

skin; a quick and irritable pulse with increased cardiac impulse, but no valvular murmurs.

He was kept on a mild diet, chiefly of farinaceous articles and milk; and the use of suitable doses of digitalis, ergot, and tincture of the chloride of iron several months, during which his health and strength much improved, and his hæmorrhages were much less frequent. His subsequent progress I have never learned.

The *third* case was that of a boy aged only two and a half years, living on Halsted, north of Division street, in a poor family of Irish parentage. I was first called to see him eight years since. At that time blood was oozing from the gums around the two back teeth on one side of the mouth, from the edge of the tongue, and from the nose. It had been in progress more than a week and he was much exhausted. His knees and ankles were some swollen and his face appeared puffy and bloated, with numerous petechial spots on the skin; pulse frequent and weak, but the heart's action increased. His mother stated that he began to exhibit a disposition to persistent bleeding on the slightest accident before he was a year old, and for several months past had bled so often from the nostrils that she had little hopes of his recovery. For the arrest of the existing hemorrhage I directed a solution of persulphate of iron in water, in such doses that he would get half a grain every three hours, and tincture of digitalis and fluid extract of ergot, each two minims, half way between the doses of the iron. He was kept at rest and fed on bread, rice and milk. In about two days the external bleeding ceased, and soon after the petechial spots began to fade. The tincture of chloride of iron was then given instead of the persulphate, and a minute dose of strychnia added to each dose of the iron, giving it only after each meal-time. The digitalis and ergot were continued before each meal and at bed-time. He continued to improve until in about four weeks all appearance of hæmorrhagic spots had disappeared and his general health was good. The iron and strychnia were then discontinued, but the digitalis and ergot were continued with only intervals of three or four days at a time for more than a year. During the first half of the year he had three or four moderate turns of epistaxis, and during the last six

months no spontaneous hæmorrhages. Every bruise or slight scratch, however, still showed the existence of the diathesis. The mother was now instructed to give him only one dose of the digitalis and ergot at bed time each night; to guard him as fully as possible against all traumatic injuries, and to give suitable doses of the medicine four times a day whenever any appearance of hæmorrhage, either spontaneous or traumatic, should occur. The mother followed the directions faithfully for three years, during which he grew so well and had so little trouble that further use of medicine was omitted. He continued to do well until about one year since, when the mother brought him to my office with epistaxis which had persisted moderately three days; two or three blood tumors on his body and thighs, with several petechial spots in the skin. I directed a return to the use of the same remedies as before, in doses suited to his increased age, and the bleeding was again arrested, and I have heard nothing from him since.

The *fourth* case was a boy on Lytle street, in the West Division of the city. He came under my observation when he was about four years of age. The hæmorrhagic tendency had been observed from his infancy, and was so strongly marked that his bleedings were both external and interstitial, provoked by the most trifling causes, and persisting several times until death seemed almost inevitable. I recommended the same general management hygienic and medical as in case three, just detailed. He has been somewhat under my observation for four or five years. The treatment had the influence to greatly improve his condition, lengthening the intervals between his hæmorrhagic attacks, and rendering them less persistent, but the last time I saw or heard from him, which was about one year since, he was suffering from an extensive hæmorrhagic extravasation into the areolar tissue of one leg and thigh, with severe rheumatic pains.

The fifth and last case is a young woman aged about 18 years, who first came under my observation last winter, in the early part of February. She had been bleeding from the nostrils so freely for several days that her face was very pale, and the physician in attendance had plugged both posterior and anterior nares, and was giving her half-drachm doses of fluid extract of ergot every two hours. Her pulse was feeble, extremities cold,



the skin on the upper and lower extremities exhibiting numerous small petechial spots with several much larger ones on the trunk of the body, and a feeling of soreness or muscular hyperæsthesia throughout the system. Her menstrual functions had been regular as to time and only slightly more free than the average of healthy women. There was nothing in her mode of living or in the appearance of her gums to indicate a scorbutic tendency.

As the plugging of the nostrils had stopped the direct flow of blood, she was advised to continue the use of the ergot in doses of fifteen minims of the fluid extract in combination with the same quantity of the tincture of digitalis, every four hours. Entire rest and mild diet were enjoined, and she soon began to improve. After a week had passed with no return of the bleeding and the petechial spots had begun to fade, the ergot and digitalis were restricted to a dose three times a day and ten drops of dialyzed iron and one-thirtieth of a grain of strychnia were given after each meal time. In about three weeks the hæmorrhagic spots had all disappeared and the patient appeared quite well. She continued so until the second week in March, when she again began to be troubled with persistent epistaxis. It was controlled however, before she became greatly reduced by the internal use of ergot and digitalis with rest. This patient had been subject to hæmorrhagic attacks once in two or three months for the last three years.

The character of the bleeding in cases of true hæmophilia is somewhat peculiar. Instead of coming from one or more distinct vessels, it oozes from the whole bleeding surface, whether it be that of a wound or a membrane.

The place from which the bleeding comes may be either internal, interstitial, or external from free surfaces. Of the latter the relative frequency of the bleeding from different parts is shown by the following statistics given by Immermann: In 308 cases, 152 bled from the nose; 38 from the gums; 35 from the intestines; 17 from the lungs; 16 from the urinary organs; 14 from the stomach; 10 from the female genital organs; 6 from the tongue; 5 from the ears; 4 from the fingers; 4 from the scalp; 3 from the caruncula lacrymalis; 2 from ulcers of the skin; 1 from the eyelids, and 1 from the umbilicus.

It will be seen that epistaxis greatly predominates in frequency; yet the bleedings may occur from almost every part of the body.

In regard to the causes contributing to the formation of the hæmorrhagic diathesis but little is known. That the cases are in large part congenital is evident from the early age at which the disease first manifests itself. Thus of 95 cases collected by Grandidier, 58 began before the completion of one year of age, and 23 began between the ages of one and six years; to which may be added 4 of the 5 related in this paper. In regard to hereditary influence, it appears that the 650 cases compiled by Grandidier and Immermann belonged to 219 families, being in the ratio of nearly three in each family. The influence of sex is still more strikingly illustrated by the same 650 cases, of whom 602 were males and only 48 females; and 4 of the 5 cases related by myself were males.

*Pathology of the Disease.*—By some, it has been regarded as a morbid condition of the blood, consisting in *deficiency* of hæmatine or red corpuscles, fibrin and plastic constituents. But recent careful analyses have shown that these ingredients, especially the iron and fibrin are in excess instead of being deficient in quantity; and consequently investigations in this direction afford no explanation of the morbid phenomena. Careful post mortem examinations have shown in some cases, cardiac hypertrophy with or without enlargement of the aorta; in others the blood vessels were represented as lying more superficial and with thinner coats, but with less capacity of the arterial termination in the capillaries. It is acknowledged that these anatomical changes or defects are not present in all cases and that the last named is very difficult to determine. Yet on this vague idea of the want of capacity in the termini of the vessels, Immerman founds his explanation of the phenomena of the disease. He claims that there is in hæmophilia generally an excess of blood or plethora of the vessels and a remarkable rapidity of hæmatisis or reproduction of blood after hæmorrhages; and this in conjunction with the defective capacity of the peripheral extremities of the vessels leads to undue lateral pressure upon their walls and the consequent forcible exudation or extravasation of blood.

If this theory was correct, the periods of hæmorrhage ought always to cease, as soon as sufficient blood had been lost to relieve the vascular fullness and consequently the lateral pressure, which is not in accordance with clinical observations.

It has appeared to me, that the pathological defects or conditions in these cases did not consist in a disproportion between the *quantity* of the blood and the *capacity* of the peripheral extremities of the vessels, but in, either the defective development of the muscular fibers in the middle coat of the smaller arteries, or the defective influence of the vaso-motor nerves on such fibers, or both combined. Another element that I think enters into most of these cases is a defect in the property or affinity belonging to the plastic elements of the blood and the tissues.

We all know that when a part is irritated, among the earliest changes noticable under the microscope are the rapid accumulation and adhesion of the white corpuscles to the walls of the vessels, which together with the constant processes of nutrition and disintegration involving definite atomic changes, prove the existence of a special affinity as a property of living plastic elements.

It is not the mere retraction of a severed vessel and the formation of a clot that arrests hæmorrhage in healthy subjects. On the contrary, I am satisfied that injury to a vessel in a previously healthy state induces a reflex influence through the vaso-motor nerves, causing tonic contraction of the muscular fibers of the vessel or vessels implicated, and this, with the rapid accumulation and adhesion of corpuscles and plastic constituents to the walls of the vessels, has far more to do with the permanent suppression of hæmorrhage than the mere retraction of the vessel and formation of the clot. If I am right in this view, it is easy to perceive that a defect in the development of the muscular fibres of the vessels with an impairment or paralysis of the vaso-motor nervous influence, whether congenital or acquired, would constitute a condition highly favorable for the occurrence of frequent and persistent hæmorrhages.

*Treatment.*—As would be inferred from the cases reported in the first part of this paper, I place more reliance on the use of digitalis and ergot, internally, aided by a solution of persulphate of iron applied to the bleeding surfaces, than on any other reme-

dies. During a period of actual bleeding, the remedies should be given in pretty full and frequent doses, aided by entire rest and mild diet. After the bleeding ceases I continue the same remedies, in smaller doses, three times a day, from three to six months, interrupting them occasionally for three or four days at a time. Careful attention should also be given to keeping the digestive and excretory organs in good order, and there should not be too much haste in promoting the re-formation of blood by resorting to rich food and preparations of iron. Reliable analyses have shown that both iron and fibrine are generally present in the blood of these patients in quantity above the normal proportion, and the heart is unduly excitable. This would indicate a diet of farinaceous articles, milk and vegetables, with only a sparing use of meat, and such nervous excitants as tea and coffee; and my own experience has fully corroborated this view. I have also found it advantageous to limit the patient in the use of water or other drinks habitually, because free indulgence in this respect rapidly increases the mere bulk of the blood without adding to its plastic elements.

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### CASES OF LITHOTRITY; AN INSTRUMENT FOR FINDING SMALL REMAINING FRAGMENTS OF STONE BY AUSCULTATION.

BY EDMUND ANDREWS, A. M., M. D.

There is no denying the fact, that we of the western continent have grossly neglected the operation of lithotrity, and I confess to my full share of the sin. We have gone on cutting patients by scores and hundreds, when a large portion of them would have been more safely treated by the operation of crushing.

In children, cutting is, to be sure, very safe, and crushing nearly impracticable, but in adults the facts are as follows :

Mortality of lithotomy in patients over 20 years of age.

	Cases.	Deaths.	Per cent. mortality.
Sir Henry Thompson's table.....	733	150	21
Keith's table, <i>Brit. Med. Jour.</i> March 20, 1868.....	1312	330	25
	2035	480	23

Thus the best authorities in the world give us a mortality of over 23 per cent. for adult lithotomy, or nearly one death in four.

Now contrast this with the results of lithotrity. The following table shows the results of the operation on both continents :

LITHOTRITY.		
Authorities.	Cases.	Deaths.
Transactions of N. Y. State Med. Society.....	49	9
Bigelow, of Boston.....	6	1
Andrews, of Chicago.....	6	0
Eve, of Nashville.....	4	0
Drs. Curtis and Porter, quoted by Bigelow.....	2	0
Report Boston City Hospital.....	1	0
Report Pennsylvania Hospital.....	14	2
Brodie, of England.....	115	9
Sir Henry Thompson, of England.....	422	32
Fergusson, of England.....	109	12
Keith, of Scotland.....	116	7
Crichton.....	122	8
Statistics des Hôp. de Paris, 1861-2-3.....	56	9
Civiale of Paris.....	591	14
K. K. allg. Krankenhaus, Wien.....	42	16
Lücke, of Berne.....	2	0
Dr. Kerr, of the Missionary Hosp. Canton, China	30	3
	<hr/> 1687	<hr/> 122

#### Mortality 7 per cent.

As stated above, this shows that lithotrity in adults is very much safer than lithotomy. A glance at the table also shows how American surgeons have neglected the operation. Paul F. Eve's four cases are given in the same paper with a hundred cases in which he performed lithotomy. The Boston City hospital reports only one case, the State Medical Society of New York, 49 cases, and the Pennsylvania hospital only 14 cases, while the principal British surgeons tabulate them by hundreds, and even a distant missionary physician in China sends thirty cases.

I confess to my share of blame in operating heretofore almost altogether by cutting, but the increasing success of lithotrity in

Europe renders it impossible for American surgeons to longer ignore its claims in a suitable selection of cases. I have therefore crushed the stone of late in eight different cases, and thus far without a death. Two of the cases, however are unfinished, so that I cannot include them in the table.

Case I. Adult male. Stone in the bladder, accreted around a roll of chewing gum, which the patient introduced a year ago. Urethra was contracted too small for lithotrite, I therefore kept up a course of dilatation with bougies for two or three weeks before operating. The calculus was then attacked, and crushed at ten sittings in the course of nineteen days. Several subsequent examinations having failed to discover any remnant of the stone or of the gum, the patient was discharged, and is not known to have had any relapse. No dangerous symptoms occurred during the treatment.

Case II. Patient was caught under a mass of falling rock, and received an injury of the spinal cord, which paralyzed the inferior extremities almost completely. About a year later he showed signs of a calculus in the bladder. Eleven months later he came under my care. The lower extremities were still paralyzed, and the bladder with them, rendering a frequent use of the catheter necessary. Exploration showed a stone with a diameter of about an inch. The bladder was frequently affected with some hemorrhage. I gave him five days preparation, by giving freely quinine and bromide of potassium. On the sixth day I crushed the stone. Some cystitis was provoked, but rapidly subsided, and I repeated the crushing on the 8th day. Then followed four days of diarrhoea, which being subdued, I crushed again, on the fifteenth day. On the seventeenth day some pieces became impacted in the urethra and were removed, with great relief. Additional sessions were had on the 19th, 21st, 22d, 25th, 32d and 36th days. After the latter session there was a brisk temporary hemorrhage of the bladder, filling that viscus with clots, which could not be expelled by the patient. They were drawn out by a strong syringe attached to one of the large catheter-like tubes of the wash-bottle. There was no serious inflammation, and on the 44th day the eleventh and last session was had. Several subsequent examinations showed that no more stone was present, and the patient was sent home. The stone was phosphatic but rather hard. This



was a difficult and tedious case, but at no part of the treatment did any alarming symptoms arise.

Case III. This case is remarkable for being executed in defiance of the rule that the patient should observe the recumbent position after each operation. He was a healthy man, about thirty years of age, and lived in a suburban town twelve miles distant from my office. The stone measured a little less than three-quarters of an inch in diameter and was rather soft. The patient declared that there was no arrangement possible in his circumstances, but to come to my office for his operations, and then to return home by rail the same evening. Seeing that the rules could not be enforced, I determined to try him cautiously as he proposed. His cystic trouble was of six years' duration, but the symptoms were quite mild. I therefore very cautiously seized the stone and crushed it, kept him on the lounge an hour or two, and then sent him home to his family physician. Sixteen days later I repeated the operation, and two days afterwards made the final crushing, three sessions in all. Subsequent soundings showed no more stone, and he was discharged cured. This case turned out well, but it would certainly be a rash plan to allow ordinary parties to risk themselves by a twelve-mile ride after each session.

Case IV. Patient aged 50 years; bladder very sensitive; stone rather more than an inch in diameter, pretty hard and of two years growth. I proceeded at first with great caution, allowing plenty of time between the sessions. Ten sessions were had scattered through two months time. There was quite a tendency to urethral chills after the sessions, which I restrained by large doses of quinine. However, he grew much more tolerant of instruments as time progressed, and was discharged cured.

Case V. Patient 68 years of age, and greatly troubled with his disease. Twenty years before, he had been lithotomized, and had 17 small stones removed at once.

The present stone was half an inch in diameter, very soft and quite difficult to find and seize. I crushed it at three sessions, but had several searches in which I failed to grasp it, and dared not continue the manipulations long, on account of the constant tendency to cystitis, urethral chills and hæmorrhage. Once the blad-

der filled with clots obliging me to empty it by the suction of a strong syringe through a No. 12 catheter.

Quinine was used freely to restrain the chills and a steady use of benzoic acid by the mouth greatly relieved the cystic irritation. The latter remedy was used in consequence of a suggestion of Dr. Lucius Clark, of Rockford. The patient was discharged cured.

Case VI. Patient aged about 48 years, and in medium condition. The stone was nearly three quarters of an inch in diameter, and excessively hard, being composed chiefly of oxalate of lime.

I crushed four or five times, besides making a few fruitless searches, during 22 days. No severe symptoms occurred. The patient was kept on cinchona preparations copiously, and was discharged cured.

Case VII. Patient aged 54. Case unfinished.

Case VIII. Patient aged 64. Feeble. Case unfinished.

Prof. H. Bigelow, of Boston, published in the last number of the *American Journal of the Medical Sciences*, an article on the performance of lithotripsy by a single operation. He gives five cases of his own and one of another surgeon, operated on at a single sitting. One of the six died. The operations lasted on the average nearly an hour and a half and the patients were under ether. Dr. Bigelow thinks it is reasonably safe to rid the patient completely of the stone at once, and thus save the irritation of the remaining fragments and the loss of time involved in the slow method. His mortality of one patient in six is a bad result, so far as it goes, but the number being so small one cannot conclude with certainty that more experience would prove equally dangerous. My own opinion however, is that the safety of lithotripsy lies in the fact that the operation can be done a little at a time. In my experience prolonged working in the bladder with the lithotrite is decidedly more irritating than short sessions. In stones of average size, and bladders of corresponding degree of inflammation, one of these hour and a half sessions will probably be as dangerous as lithotomy, but in very small stones contained in bladders of little irritability, I think the plan of finishing the work at once will be found safe and judicious.

Prof. Bigelow has made some useful improvements in the tube and wash bottle. He has also studied the action of instruments

in dead bodies by inserting them into the bladders, and then injecting them with plaster of paris. The plaster when hardened gave the form of the vesical cavity as modified by the pressure of the instruments at various points. The article is highly instructive, and shows the principles which should guide one in searching for fragments, and how pressure of the instrument at the lower fundus of the bladder makes a funnel-shaped hollow where all fragments tend to fall into the jaws of the lithotrite or the orifice of the wash tube.

One of the difficult points in lithotritry is to know when all the small fragments are removed. To facilitate the discovery of the last small bits, I have devised an auscultating sound, which will convey to the ear the faintest touch of a particle of stone.



This instrument consists of a metallic searcher of the ordinary form, but made hollow. To the outer end is attached a small rubber tube and ear piece, like those used by aural surgeons in listening to the tympanum. This transmits to the ear of the surgeon with great distinctness the sound of very minute particles of stone, and adds greatly to the feeling of security when, on the final search, the patient is discharged as cured.

I cannot but feel that American surgeons, myself included, have been negligent in cutting rather indiscriminately large numbers of patients, when about one half of them could have been treated more safely by lithotritry. However, let no one be so

enthusiastic as to suppose that the crushing operation should supersede cutting in all cases. There is perhaps, no more enthusiastic lithotritist living than Sir Henry Thompson, and his matured opinion delivered only a few weeks ago, is that if lithotrity be applied to too large stones—that is to stones much above the size of an almond, the results will not be superior to those of lithotomy in the same class of cases.

The table of lithotrity, given above, shows nominally that the operation kills only one-third as many patients as adult lithotomy; but this, if taken without allowance, would overstate the difference between the operations. The lithotrity patients, on the average, are selected from those having the smallest stones and the soundest bladders, while the lithotomy cases are taken indiscriminately. Still any one who considers the great numbers of men with very small stones lithotritized by Sir Henry Thompson without a death, must admit that it would be impossible to cut the same number of the very best patients without some deaths. The results thus far gathered show that in adults, where the stone is not larger than an inch in diameter, most cases should be lithotritized, and Thompson says that all adult female cases should have the same operation.

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### A CASE OF OVARIOTOMY.

BY WILLIAM MEACHER, M. D., PORTAGE, WISCONSIN.

The following case of ovariectomy, is published, not because it presents any novel features, but because in certain particulars it ought to be added to the literature already accumulated, in order to show the great importance of placing the patient under the best possible hygienic treatment.

In Nov., 1877, Miss F., aged 21, came to see me, by the advice of her physician—Dr. Blake, of Lodi, Wis. She had an ovarian tumor; but as she was not troubled in any way except by the abdominal enlargement, I advised letting it alone for the present.

On the 8th of January following, I tapped the cyst, removing a

pailful of coffee-colored fluid, which was highly albuminous, and showed, under the microscope, crystals of cholesterine, and the "gorged granule" described by Peaslee. The gorged granule is, however, not considered so valuable a diagnostic sign as it was before Prof. I. N. Danforth, of Chicago, discovered it in the fluid of cystic disease of the kidney. She was tapped again in April. After this second tapping, it was evident that there was more than one cyst. Previous to this I had believed the tumor to be unilocular, the abdomen being uniformly distended, and uniformly diminished by the first tapping. Ovariectomy was performed by me during the forenoon of the 23d of June 1877, with the assistance of Drs. M. M. Davis, Wm. Fox, O. D. Coleman, Blake and McKeeby.

The patient's health had been rapidly failing for several weeks previous, but I was not made acquainted with the fact, or I should have operated sooner.

Squibb's chloroform was administered, the patient having previously taken  $\frac{1}{4}$  gr. of morphia and 1  $\frac{1}{2}$  of whisky.

The incision was between five and six inches in length. Adhesions were found, very extensive and so strong that I was obliged to use both hands, and great force to tear them asunder.

The tumor proved to be multilocular in the full sense of the word: four different cysts had to be tapped before the former could be extracted through the incision. There were about fifteen different cysts, each one containing fluid differing in color and consistency from the others. Two, each about the size of a hen's egg, contained pus.

One vessel from the omentum was tied with a silk ligature, the ends cut short, and returned to the abdominal cavity. The pedicle was secured by a Spencer Wells'-clamp. The abdominal cavity was scrupulously sponged with fine, soft sponges, which were rendered perfectly free from sand and dirt, which I believe cannot always be said of the sponges used in such cases. The water used was well-water, filtered, and corbolized.

The wound was closed with silk sutures two-thirds of an inch apart, and was covered with a strip of cotton wadding, about three inches wide, and held in place by strips of adhesive plaster applied transversely, reaching entirely across the abdomen. A

piece of soft cotton cloth was laid over all, and a broad flannel bandage passed around the body completed the dressing.

The operation was a very difficult and tedious one, so much so that none of the physicians present thought the patient would survive. The operation was concluded at one p. m., and during the afternoon, as often as required, I gave small doses of morphine, and occasionally a tablespoonful of beef tea and a spoonful of wine. In the evening the pulse was 106; patient suffered but little, was very thirsty, took cold water freely. I left her at 9 o'clock, directing the nurse to give morphine when necessary to control pain, to give beef tea now and then, and to use the catheter every six hours.

Sunday morning, 24th. Found her pretty comfortable, pulse 106, though it had been up to 125 during the night; examined the stump and found a little bloody fluid oozing around it; applied solid perchloride of iron. She vomited some in the afternoon. A distressing cough, with more or less dyspnoea, came on in the afternoon. Patient said she used to be troubled with asthma before she had the tumor. In the evening the pulse was 120.

Monday, 25th, morning. The nurse informed me that the patient passed a bad night on account of bronchial trouble; pulse continued 120 all night. The cough and dyspnoea were not quite so bad during the day.

Tuesday morning, 26th. Was more comfortable, expectorating quite freely and breathing more easily; some soreness about the abdomen, but much less than could be expected from the cough and labored breathing; very little pain, skin moist. Pulse continued 110 during the day.

Wednesday morning, 27th. She looked bright and felt pretty well; she coughed a good deal the first part of the night but rested well the latter part; the pulse was 110. She took food well during the day; had very little pain or soreness; wound seemed to be well united. Should have removed the stitches but feared to do so on account of the cough. Urinated in the afternoon without the catheter.

Thursday morning, 28th. The pulse was 94; expectoration quite free; appetite improving; she wanted beefsteak and potatoes; no pain or soreness about the wound; removed the stitches.



Saturday, 30th. Found her doing well; bowels had acted the previous evening. Bronchial trouble had assumed an intermittent form. I therefore prescribed quinia 2 grs. every four hours.

Monday morning, July 2d. The cough was gone. The urine had become turbid and irritating. Prescribed carbonate of lithia in soda water.

Wednesday morning, 4th. Clamp came off; patient felt well; tongue clean; appetite good; no soreness about the abdomen; could lie on either side comfortably.

I did not see the patient again, but convalescence was rapid and complete.

Now this was certainly not a favorable case to begin with. The patient's health was rapidly failing, the tumor was one of the worst of its kind that I have had to deal with, the operation difficult and tedious, and the shock very severe. I believe the recovery in this case was, to say the least, largely due to the patient's surroundings. Her home is about 10 miles from Madison, situated in one of the most beautiful and healthy sections of this State. The house is a large, well built farm house. The patient's room was in the second story, a large airy room, with windows on two sides, provided with good shutters. The place was perfectly quiet, and the patient free from disturbance of any kind.

I believe that if every patient who had to undergo ovariectomy could be similarly situated, and at the same time could avail herself of the services of an ovariectomist of large experience, the percentage of deaths from this operation would be greatly reduced.

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## ARSENIC IN SUBNITRATE OF BISMUTH.

By J. H. SALISBURY, M. D., CHICAGO.

It is well known that the subnitrate of bismuth is apt to contain arsenic as an impurity, but the frequency with which it occurs is probably not fully appreciated.

With a view to determining the frequency of this contamination of the preparations of bismuth, and the relative quantity

which the specimens ordinarily sold contain, I undertook some investigations at the laboratory of Rush Medical College, under the direction of Prof. W. S. Haines.

Eighteen specimens of the subnitrate of bismuth, bought at different drug stores were examined. All the specimens but two were from reputable manufacturers—the names of the manufacturers of these two preparations were not known. Arsenic was found in thirteen of these. The quantity was determined in three and found to be 1-14 per cent. in the first; 1-10 per cent. in the second and 1-5 per cent. in the third.

Five specimens of subcarbonate of bismuth were examined and arsenic was found in all.

This result was quite unexpected as the subcarbonate is preferred by some to the subnitrate, as being less likely to contain arsenic on account of the mode of its preparation. My analyses would seem to show that this opinion is unfounded.

The arsenic in subnitrate of bismuth exists in the form of arseniate of bismuth—the percentages given above are calculated as arsenic acid.

The method given in the U. S. Dispensatory, p. 1065, for freeing the subnitrate from arsenic by boiling twice successively with potassic hydrate, dissolving the resulting oxide of bismuth in nitric acid, and reprecipitating with water, is effectual if carefully performed, as one of my experiments showed, in which I examined a specimen and found arsenic and examined the same specimen after purification by this process and found none. In another case however the process was less successful, and the subnitrate showed the presence of arsenic after attempted purification.

Arsenic in the preparations of bismuth is liable to be a dangerous impurity. Two cases are given by Taylor on Poisons, p. 470.

In one, puffiness of the eyes and gastro-intestinal irritation followed the taking of subnitrate of bismuth which was shown by analysis to contain a formidable proportion of arsenic. In another, a child showed symptoms of poisoning from subnitrate of bismuth given to control diarrhoea. The bismuth was shown to contain arsenic.

The largest quantity found in my analyses would amount to

nearly  $\frac{1}{8}$  of a grain in a drachm. This might produce very serious results if the subnitrate were given to a child or even to an adult, in the large doses often recommended to control vomiting or diarrhoea.

The impurity is more dangerous from the fact that subnitrate of bismuth is usually regarded as a harmless drug, and hence is likely to be prescribed in large doses.

It seems very likely that this impurity when existing in quantity insufficient to produce poisonous effects, may counteract the sedative effects of the bismuth and thus render the medicine comparatively worthless.

It is an interesting question whether the good effects of subnitrate of bismuth in chronic gastric catarrh and in vomiting of various kinds, may not be due, to a certain extent, to the arsenic which it contains. Drop doses of Fowler's solution are recommended by Bartholow for chronic gastric catarrh and for some kinds of vomiting.

If subnitrate of bismuth containing 1-10 per cent. of arsenic were given, ten grains would contain an amount rather more than equivalent to a drop of Fowler's solution.

If the arsenic has in this way any beneficial effect it would be much better to have the preparations of bismuth pure, and to use in conjunction small doses of some preparation of arsenic so that definite doses could be given. Perhaps the arseniate of bismuth would be found to be an efficient therapeutic agent for this purpose.

In conclusion it is evident that sufficient care is not taken to free the preparations of bismuth from this dangerous impurity, so that the physician may know precisely what he is giving.

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COLORLESS TINCTURE OF IODINE.—A mixture of tincture of iodine and carbolic acid will gradually produce tri-iodophenol, which is soluble in the alcohol. Hence the disappearance of color. The ingredients generally used are: *Rx.* tinct. iodinii comp. *m* xlv.; acid. carbolic, *m* vj.; glycerini fl.  $\bar{3}$  i; aquæ fl.  $\bar{3}$  v.; *M.* This is sometimes called carbolate of iodine. The color disappears in from eight hours to ten days.—*Can. Med. Record.*

## Clinical Reports.

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### NOTES FROM PRIVATE PRACTICE.

#### *Fibroid Tumor of Uterus successfully treated by Hypodermic Injections of Ergotine.*

On Nov. 25th, 1877, I was called to see Mrs. L., aged about 47. On inquiry, I found that she had been subject to an almost constant flow of blood from the vagina, for nearly two months past. She was so much exhausted by this as to be obliged to remain in bed. Defecation was performed with great difficulty, and the feces were flattened. She also complained of various obscure pains over the region of the uterus and left ovary. She had been treated during this time for "change of life," and had been gradually getting worse.

I found the cervix in a normal position and apparently healthy. A body, which I at first supposed to be the uterus, occupied the posterior part of the pelvis. This body seemed to be of about the size of the clenched fist of an ordinary sized man, was immovable, and joined the cervix at about a right angle.

A rectal examination showed that the gut was almost occluded by this tumor. Being in doubt whether I had to deal with a retroflexed and hypertrophied uterus, or a fibroid tumor of the same, I introduced the uterine probe, which showed that the organ was in normal position, and that its cavity was slightly enlarged. The diagnosis then could admit of no doubt. Here was a uterine fibroid, which was already encroaching dangerously on the rectum, and was evidently gradually increasing in size, as was shown by the fact that defecation was performed with increasing difficulty. What was to be done? I had read many conflicting opinions as to the efficacy of hypodermic injections of

ergotine in such cases, and as the preponderance of evidence seemed to be favorable, I determined to give the remedy a fair trial.

Without going into a detailed history of the case, it is sufficient to state that under this treatment, combined with drachm doses of fluid extract of ergot by the mouth three times daily, the tumor gradually became smaller, the hemorrhage at the same time diminishing, until at the end of one month (when treatment was discontinued), the hemorrhage had entirely ceased, the bowels were moved without difficulty, and the tumor was reduced to about the size of a small hickory nut. I am aware that the above stated result seems almost incredible, and yet "facts are stubborn things."

The injections were mainly made in the arm, and were repeated sometimes every day and sometime every other day.

The treatment was discontinued at the time stated, because the patient was to all appearance, and as far as she could discover, well; and because I was satisfied that the remains of the tumor would give no particular trouble, and would most likely disappear entirely.

At this date (April 20th, '78) Mrs. L. expresses herself as feeling better than she has for years. She has menstruated with tolerable regularity up to this time.

M. G. SLOAN, M. D.

CHARLOTTE, IOWA.

#### *Superfetation or Twin Conception?*

I was called, March 19th, to attend Mrs. D., aged 41 years, in her eleventh confinement. In due time she was delivered of a fine, healthy female child, weighing ten pounds. After I had tied the cord and handed the child to the nurse, I proceeded to ascertain if the placenta had been expelled, and, on introducing my finger into the vagina, I found there another foetus. On examination, I discovered it to be about four months old, and in a perfectly healthy condition, there being no sign whatever of decomposition, but, on the contrary, all the appearance of having been alive when labor set in.

Its membranes were entire when expelled, but I neglected to

make any examination as to the insertion of its umbilical cord, and cannot say whether there was more than one placenta. There was nothing else about the case in any way unusual, and the mother made a good recovery, the child also doing remarkably well.

Query. Was this originally a twin conception, or was it a case of superfetation?

T. A. SCOTT.

WARREN CO., ILL.

EXTERNAL USE OF TINCTURE OF BELLADONNA IN NIGHT-SWEATING.—Dr. J. T. Nairne, (*British Medical Journal*.)

For some little time past I have employed the common pharmacopœial tincture of belladonna for sponging the body in cases of phthisical and excessive sweating, and invariably with marked benefit. So far as my experience goes, I have found it very much better than anything else; if applied before a sweating comes on, it prevents it; if during the sweating, it almost immediately controls it. Two teaspoonfuls of the tincture mixed with an equal quantity of whisky are quite sufficient (applied with the hand) to cover the whole body and produce the desired effect. I have adopted this method of treatment in my last cases of scarlet fever, which have all done well; but they have not been numerous enough to justify any definite opinion of the value of belladonna applied in this manner.

ABUSES OF MEDICAL CHARITIES.—At the last meeting of the Medical Society of the county of New York, Dr. Geo. Witherell read a report, prepared by the Committee on the Abuses of Medical Charities. In this, it was stated that in Philadelphia, during 1876, one out of every five inhabitants was treated gratuitously at the dispensaries or hospitals; in Boston, during the same period, one out of every four, and in New York also one out of every four. It was shown that only 12 out of 152 applicants for free treatment, whose cases were inquired into, were proper objects of charity.—*Hospital Gazette*, May 2, 1878.



## Society Reports.

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### THE TWENTY-EIGHTH ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY, SPRING- FIELD, MAY 21ST AND 22ND, 1878.

*(Reported for The Chicago Medical Journal and Examiner by N. S. Davis, M. D.)*

The delegates and members of the Illinois State Medical Society assembled in regular annual session on the 21st day of May, 1878, in the Representatives' Hall at the Capitol in Springfield, and were called to order at 10 o'clock a. m., by Dr. J. L. White, of Bloomington, President of the Society. Prayer was offered by the Rev. Mr. Fullerton, and an address of welcome in behalf of the Committee of Arrangements, was delivered by Dr. B. M. Griffith, Chairmain of the Committee. The list of Standing and Special Committees was called, and the reports and papers assigned to particular hours for reading. Dr. J. F. Todd called the attention of the Society to the death of the late G. W. Crossley, of Princeton; and on motion of Dr. T. D. Fitch, the President was requested to appoint a committee of three to report resolutions of respect for the memory of Dr. Crossley. The President appointed Drs. J. F. Todd, T. D. Fitch and T. F. Worrell such committee.

The President, Dr. J. L. White, of Bloomington, delivered his annual address, which was listened to with pleasure and profit, and a copy requested for publication in the transactions of the Society. Governor Cullom having come into the hall to listen to the address of the president, was at its close escorted to the platform and introduced to the Society by the vice-president, Dr. E. P. Cook, of Mendota. The Governor responded in a brief and

very appropriate address, in which he alluded to the establishment of a State Board of Health, and the operation of the law to regulate the practice of medicine in this State. He stated that the doubts entertained at first, in regard to the propriety of those measures, had been entirely removed by their practical operation thus far, and he should give them a cordial support. His address was listened to with much pleasure. Dr. T. D. Washburn, of Hillsborough, then read a brief paper highly eulogizing the medical laws establishing the State Board of Health and regulating the practice of medicine, which was received and referred to the Committee of Publication.

#### AFTERNOON SESSION.

The Society was called to order by the president at 2:30 p. m.

The Censors reported on several candidates who had been proposed for election as permanent members, and they were unanimously elected.

Dr. T. D. Fitch, chairman of the committee on the revision of the constitution and by-laws, made a report embodying a complete revised constitution and by-laws, which were read, section by section, and adopted with but little discussion. The chief items of difference between it and the old constitution, are, the omission of the provision for selecting *permanent members*; the insertion of a clause providing for honorary membership by non-residents of the State; and another providing for a permanent *Judicial Council*, in the place of the Board of Censors. The constitution and by-laws as adopted were referred to the Committee of Publication, with instructions to publish them in the Transactions, and also a separate edition in pamphlet form.

Dr. D. Prince, of Jacksonville, presented and explained the operation of a galvanometer, for measuring or indicating the intensity of the galvanic current during the application of galvanism or electricity to medical and surgical purposes.

Dr. N. Wright, of Chatham, read a report on the action of malaria and the treatment of its effects; the chief peculiarity of which was the advocacy of hypodermic injections of sulphate of morphia, to suppress or mitigate the paroxysms of an intermittent fever. He claimed that the hypodermic injection of a mod-

erate dose of morphine at the commencement of the cold stage always cut that stage short, and rendered the hot and sweating stages very slight. He did not claim that it prevented the recurrence of the paroxysms. The paper led to an interesting discussion concerning the best mode of treating chronic agues and other effects of malaria, during which Dr. N. S. Davis advocated extreme caution in the use of morphine and other active narcotics hypodermically.

Dr. T. D. Fitch, of Chicago, Chairman of the Committee on Obstetrics and Diseases of Women, read an interesting report, after which the society adjourned to 9 o'clock Wednesday morning.

#### WEDNESDAY MORNING SESSION.

The Society was called to order at 9 o'clock A. M., by the President.

The report of the Committee on Obstetrics being in order, Dr. E. R. Willard, of Wilmington, read a paper on puerperal eclampsia, and Dr. Ellen Ingersol, of Canton, read an additional report on some of the more common matters, that are apt to be neglected in the management of ordinary labors. On motion of Dr. F. B. Watts, the report of the Committee on Obstetrics, and the accompanying papers, were received and referred to the Committee of Publication.

A recess of ten minutes was taken, to allow the members from each county to select one of their number as a member of the Committee on Nominations; after which Dr. C. W. Earle, of Chicago, read the report of the Standing Committee on Practical Medicine. It was followed by a discussion participated in by Drs. S. O. Richey, J. S. Jewell, S. J. Jones, E. L. Holmes, of Chicago; N. B. Buck, of Springfield; and Dr. Johnson, of Peoria. The report was referred to the Committee of Publication.

Dr. Moses Gunn, of Chicago, Chairman of the Standing Committee on Surgery, read an interesting report, which was received and discussed by Drs. E. Andrews, E. Ingals, N. S. Davis, of Chicago; D. Prince, of Jacksonville; and H. C. Gill, of Jerseyville, and referred to the Committee of Publication.

Dr. N. S. Davis, chairman of the Committee on Drugs and Medicines, read a brief report, which, after some remarks by Dr. J. H. Hollister, was referred to the Committee of Publication.

Dr. J. F. Todd, on behalf of the special committee on the death of Dr. G. W. Crossley, reported the following preamble and resolutions, which were adopted and ordered published :

WHEREAS, We recognize in the death of our professional brother, Dr. G. W. Crossley, a serious loss to our society and the medical profession, as a tribute of respect for his manly character,

*Resolved*, That while we bow in humble submission to the afflictive dispensation, we are comforted with the knowledge that he passed through the last great ordeal with the firmness and composure of a noble nature, sustained by exalted Christian sentiments.

*Resolved*, That we cherish his memory for the uniform and gentle courtesies he constantly bestowed upon us during life, and for his unselfish and intelligent devotion to his profession.

*Resolved*, That his unsullied reputation, and the purity of his life, be ever held in our estimation as an example worthy of our respect and emulation.

*Resolved*, That we extend our warmest sympathy to his family and friends in their great bereavement.

*Resolved*, That a copy of these resolutions be sent to the family of the deceased, and offered for publication in the Princeton papers.

Dr. T. F. Worrell, Chairman of the Committee on Nominations, reported, recommending the election of the following officers and committees for the coming year :

For *President*, Dr. E. P. Cook, of Mendota.

*Vice-Presidents*, Drs. James S. Whitmire, of Metamora, Geo. W. Jones, of Danville.

For *Treasurer*, Dr. J. H. Hollister, of Chicago.

*Assistant Secretary*, Dr. R. P. Wilson, of Lincoln.

*Committee of Arrangements* : Drs. R. P. Wilson, C. T. Wilbur, L. L. Leeds, P. L. Dieffenbacker, N. S. Reed.

*Judicial Council* : Drs. F. B. Haller, of Vandalia; E. Ingals, P. H. Burton, Rob't Boal, E. R. Willard, A. T. Darrah, T. D. Fitch, C. Goodbrake, N. S. Read.

*Committee on Practical Medicine* : Drs. G. W. Jones, of Danville; J. S. Crow, L. B. Moore.

*Committee on Surgery:* Drs. John E. Owens, of Chicago; M. M. Deming, H. Z. Gill.

*Committee on Obstetrics:* Drs. C. C. Hunt, of Dixon; D. S. Booth, W. M. Kaull.

*Committee on Gynecology:* Drs. T. D. Fitch, of Chicago; P. L. Dieffenbacker, N. Budge.

*Committee on Ophthalmology and Otology:* Drs. S. J. Jones, of Chicago; J. Perrin Johnson, H. B. Young.

*Committee on Drugs and Medicines:* Drs. J. F. Todd, C. B. Johnson, John Wright.

*Committee on Necrology:* Drs. T. F. Worrell, of Bloomington; G. W. Albin, E. Ingals.

*Committee on Syphilis:* Dr. W. M. Chambers, of Charleston.

*Committee on Psychological Medicine:* Dr. A. McFarland, of Jacksonville.

*Committee on Physical Science:* Dr. Sarah H. Stevenson.

*Committee on Croup:* Dr. H. Y. Gill.

*Committee on Medical Education:* Drs. E. Ingals, of Chicago; R. G. Bogue, of Chicago; D. Prince, of Jacksonville.

Dr. C. C. Hunt, of Dixon, Chairman of the Committee on Diseases of Children, read a report, which was supplemented by a paper on cholera infantum, by Dr. Lucinda H. Carr, a member of the same committee. The report and accompanying paper were referred to the Committee of Publication.

Dr. J. S. Jewell, a Special Committee on Neurology, made a verbal report on the nature and treatment of epilepsy. On motion of Dr. W. M. Chambers, he was requested to furnish a written copy of his address for publication in the Transactions. The remainder of the afternoon session was occupied with the hearing of a lengthy report on croup, by Dr. H. Y. Gill, of Jerseyville.

#### EVENING SESSION.

The Society was called to order at 8 o'clock p. m., by the President. The consideration of the report on croup being in order, it was referred to the author with a request that he prepare an abstract for the Transactions of the Society, and that he be authorized to publish the report in full, in a separate volume as his own property.

Dr. C. W. Earle presented the report on Electro-Therapeutics by Dr. P. S. Hayes, of Chicago, and it was referred to the Committee on Publications. Short papers were also read by Dr. S. J. Jones, of Chicago, on Otology, and on Diseases of the Lachrymal Passages; by Dr. E. L. Holmes of Chicago, on Ophthalmology; by Dr. E. Andrews of Chicago on an Instrument for Detecting Fragments of Stone in the Bladder by Auscultation; by Dr. S. O. Richey of Chicago, on Reparation of Imperfect Tympani; by Dr. Mathews of Carlinville, on Diseases of the Throat and Nasal Passages; and by Dr. W. T. Montgomery of Chicago, on Two Cases of Disease of the Eye; all of which were briefly discussed and referred to the Committee of Publication.

At the request of Dr. D. W. Graham, of Chicago, a committee was appointed to assist the publishers of the *Medical Register and Directory* of the State, consisting of Drs. E. P. Cook, of Mendota, F. B. Huller, of Vandalia, and Wm. M. Chambers of Charleston.

A communication from the Centennial Medical Society was presented, relating to physicians' bills and to fees for services as expert witnesses in courts of justice. It was referred to a special committee of three, consisting of Drs. Eli Bowyer of Olney, T. F. Worrell of Bloomington, and H. Y. Gill of Jerseyville; to report at the next annual meeting of the society.

Lincoln, Logan county, was selected as the next place of meeting. A full list of delegates was appointed to the meeting of the American Medical Association for 1879. Visiting delegates were also appointed to the State Medical Societies of Michigan, Indiana, Missouri, Iowa, and Kentucky. At a late hour in the evening the Society adjourned *sine die*.

All the sessions were well attended, delegates and members being present from more than forty counties in the State. The business throughout was transacted in good order, and the meeting will be remembered as one of the most pleasant and profitable in the history of the Society.



## Correspondence.

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HONOLULU, HAWAIIAN ISLANDS, February 16, 1878.

*To the Chicago Medical Journal and Examiner :*

Among the interesting observations I have been enabled to make in these Islands, I have gathered such facts as were within my reach, of vital statistics, with some extraordinary results, which may prove of interest. My attention was first attracted to the subject, by listening to a septennial sermon preached by Rev. Mr. Freer, pastor of the Congregational church in Honolulu, on the last Sunday of 1877. He stated that during the seven years in which he had had the charge of that church, there had been born to its members eighty children, and that of those under his charge, five under fifteen years of age had died of disease and one from accident, and that during the same time fourteen adult members of the church had died.

These statistics were not sufficiently full to satisfy me, so I took an early opportunity to call upon the reverend gentleman and told him that his discourse had awakened an interest in me which it did not satisfy, and that he would lay me under great obligations if he could inform me what was the average number, during the seven years, of the children under fifteen years of age of whom but five had died of disease, and what was the average number of adult members of his church, of whom fourteen had died in the same period, and also how many of the eighty children born during that time were still living. He expressed great willingness to do this as soon as he could make the necessary investigation, and when practicable he obligingly informed me that the average number, for the seven years, of the children from whom the five were taken, was 300. That the average number of

the adult members of the church during the seven years, of whom the fourteen had died, was two hundred. That three of the five children who had died were of the eighty born during that time, leaving seventy-seven of them still living. He then added that no death had occurred during his time, among either class, of a person between the ages of six and eighteen years, so that the number of juveniles might have been largely increased by including all in that class under eighteen years of age. I remarked that I thought his statements most extraordinary, as I had seen it stated by high authority that one-half of the children born in the United States and in Europe die before they attain the age of five years. I asked him if he had ever applied figures to his facts so as to enable him to comprehend the results more clearly. He said he never had, for it had never occurred to him to do so. I then said, let us assume that the three hundred children represented 300 years of life each year, then during the seven years there were represented twenty-one hundred years of juvenile life, and if we divide this number by five, the number of deaths from disease, which has occurred among them during that time, then there has less than one death occurred for four hundred years of juvenile life in his congregation, and by applying the same mode of computation to the adults of his church and the fatality among them during the same time, then there had occurred one death for each one hundred years of adult life.

These results seemed very extraordinary he admitted, but that could not change the facts. At the first opportunity I laid these statements before Dr. McGrew, a physician of very extensive practice in Honolulu, who said that he did not doubt the truth of the statements, and that he did not think the results exceptional among the white population in the Islands. That the congregation of the Fort Street Church consisted of white people with very few exceptions, and that the few natives who worshipped in that church were of an exceptional class. That while the death of a white child in the Islands was of very rare occurrence the very reverse was the case among the native population. I asked the doctor how he explained the remarkable difference in the health of the children in the two races. He ascribed the difference to two principal causes: first the lack of constitutional

vigor or vitality in the native children, or inherited weakness or disease, and second a lack of that care which the white children receive, or in other words a lack of maternal affection. He stated that all children here are subject to those juvenile diseases which afflict children in other countries, such as the whooping-cough, measles, and the like, but that here they are of a much milder type than in any other country of which he had any knowledge, and when proper care was taken of the patients, they very rarely proved fatal. That indeed the death of a white child was of very rare occurrence, so that parents become at least partially divested of that deep solicitude or rather apprehension which is felt in other countries, that the new born infant may not live to maturity. I then inquired if he could discover that this immunity seemed to have a tendency to beget in the white mothers, an inclination to neglect their children. He very promptly answered, not in the least; that the white mothers here are as devoted to their offspring as in any country in the world, only that they were more richly rewarded here for such affectionate care than elsewhere.

While upon the Islands I have neglected no opportunity to push my inquiries on this interesting subject, and found the results nowhere less favorable than the first statements given. In a conversation with Dr. Endor, formerly of St. Louis, now a practicing physician at Wailuku on the Island of Moni, I learned that by applying the same mode of computation first adopted to his facts, there were six hundred years of juvenile life to each death of a child among the white population within his practice, while his observations corresponded with those of Dr. McGrew as to the native population.

Rev. S. C. Damon, seamen's chaplin at Honolulu for these many years, whose hand seems to be in every good work, took me to visit the Punahou school and Oahu college which is situated just beyond the city. From a historical essay, read at a meeting of the alumni of this institution by Hon. A. F. Judd, in 1866, I learn that "the school opened on the 11th of July, 1841, with an attendance of thirty-four pupils solely the children of missionaries." "The greatest number (of pupils) in any one year was in 1858, when there were 77. In 1861 there were 76 and

in the year just closed (1865), 51. Total number of pupils during twenty-five years, 290, number of deaths so far as known, 20, leaving alumni alive 270." I was informed that a large percentage of these deaths occurred out of the Islands. At the time of my visit the school had been in operation over 36 years, and not a single death had ever occurred among the pupils. I could not obtain the exact average attendance but Dr. Damon expressed the opinion that the average would be about 70. While the data obtained lack precision in some important particulars, as for instance, the number of deaths of the alumni which occurred on the Islands, and the average number of pupils in the school, still they are valuable as tending to show the healthfulness of the Islands.

I have made some efforts to get a biological history of all the missionary families in these islands, but without success. This, complete, would form a most interesting chapter in Natural History, and such a work I believe not impracticable at this day. It would show a measure of generation and health, and periods of vitality, rarely to be paralleled in the history of the human family. I have a publication which advances a step in this direction. The missionary mothers in the islands formed themselves into a society which they called the "Maternal Association of the Sandwich Islands;" and in 1854 published a list of the members and children of the association called the *Blue Book*. In this the dates of the births of the children and the dates and the places of the deaths of members and children are given. In this book are given sixty-five missionary mothers and their children, of whom there were born 288. Thirty-two of these had died in the Islands of disease, one was drowned, and five had died at other places, one of whom was drowned. Of the 65 matrons, nine had died in the Islands, and two at other places. The first child was born in October, 1820; and the last in March, 1854. The value of these figures is better appreciated when we remember that the first missionaries arrived here in 1818, so that the period embraced in the statistics was 36 years. I regret that I have not the means of determining the numbers and dates of the arrivals of the reinforcements, but as the dates of the births of the children are given, together with the dates and places of the

deaths among them, we are enabled from these to make valuable computations. As we have seen, the 65 mothers bore 288 children, of whom 38 had died. Reckoning from the birth of each child up to 1854, the time when the statement was made, the aggregate years of life, if none had died, was 4100; computing then the time from each death up to 1854, the aggregate is found to be 463 years, which, if deducted from the 4100 years, leaves 3637 years of life. With these data given, each one may make his own computation, though I cannot help observing that more than 86 per cent. of those children born in the Islands, were living at the end of the period of 34 years after the first was born. The medical profession may be familiar with such results but I confess they surprised me.

I may state here that I learned from accoucheurs and other reliable sources that parturition is much easier and safer here than is usual in other countries, and that even a few months residence on the Islands seemed to prepare the system for such results.

While enjoying the hospitality of Father Alexander at Wailuku, and before I had seen the *Blue Book*, I expressed a desire to obtain a biological history of the missionary families of the Islands, when he remarked that there might be some difficulty in getting the history of all, but he could readily give the history of one. That he and his wife came from Kentucky to the Islands as missionaries in 1832. That they had had nine children, nineteen grandchildren and six sons and daughters-in-law, and that there had never been a death in the family, but all were now living on the Islands, "and," said he, as he straightened himself up, a just pride beaming from every lineament of his countenance, "not a black sheep among them all." The venerable heads of that remarkable family still manifest the elasticity and vigor of middle life, and labor with unabated zeal in the cause to which they at the beginning consecrated their lives. Truly they have been conspicuously blessed.

The departments of the government kindly furnished me with all the statistical information in their offices, but I find nothing which answers the inquiries for vital statistics which I am making. The rapid diminution of the native population, which has long

been known the world over, and has been often the subject of elaborate dissertations, had not led me to expect here the most favorable conditions for human life to be found in any country of which I have any knowledge. It is not only remarkable as a sanitarium for children, but for adults as well. The aged missionaries who have been laboring here for forty or fifty years or more, I find still strong and vigorous, working zealously in their missions, with a promise still of many years of usefulness, notwithstanding the hardships and privations through which they have passed.

Let me add that the last census shows, for the first time, an increase of births over deaths of the native population in Honolulu, but I fear the hopes which this statement inspired, that a turning point had been reached in the vitality of the native population of these Islands, will prove illusory, and that they are at last destined to fade away and disappear.

Yours,

JOHN DEAN CATON.

### BIDDING FOR PAUPER PRACTICE.

*To the Editor of the Journal and Examiner:*

I desire to offer, with your permission, a few comments on some of the points alluded to under the head of "Remarks," in the March number of the *Chicago Medical Journal and Examiner*, in reference to bidding for pauper practice by physicians. Among others, the following question is asked: "Is it proper to bid for pauper practice?" and answered as follows: "That is a matter of taste." I confess that your response to that question rather surprised me. I think the word, bad, should have been appended to the word taste, so that the answer would read: It is in bad taste for physicians to bid for pauper practice. Such a response would be, I think, in harmony with the code of ethics, which is the expressed public sentiment of the medical profession, and also in harmony with the decision of the Judicial Council on this very question.

In Vol. XX of the Transactions, we find the following lan-



guage: "Whereas, The contract system is contrary to medical ethics, *Resolved*, That all contract physicians, as well as those guilty of *bidding for practice* at less rates than those established by a majority of regular graduates of the same locality, be classed as irregular practitioners." This decision of the Judicial Council is the decision of the American Medical Association, and that decision, and the assertion that it is a mere matter of taste with physicians whether or not they bid for practice, do not harmonize well. In fact I think there is a direct conflict between them.

"Is it a violation of the code?" The Judicial Council, Vol. XX, page 41, also answers that question, and I will say nothing on that point.

"The physicians of every district shall establish a fee bill, and make it a point of honor to adhere to it." The first part of this quotation will be found, by reference to the code of ethics, to belong to and to be taken from some other document than the code of ethics. The code does not say that physicians shall establish a fee bill. There is no such declaration in the code of ethics. The language of the code on the subject, is that of a suggestion merely and nothing else. Such words as fee bill, cannot be found in the code, and as the remarks upon this subject were made from an erroneous stand point and outside of the question in dispute, I will say nothing further in this connection at this time, as the simple allusion to the question and the code is deemed all that is necessary to show the error.

I also differ with you in regard to who it is that make up the list of bidders for the pauper practice. My observation leads me to believe that the list is not made up from the ranks of the recent graduates, or from the ranks of those that are poor; for I notice that in localities where bidding for practice is tolerated by the profession, the old as often as the young physicians and the rich as often as the poor, are found on the list of bidders, which leads me think that those who bid for practice are not driven to it from necessity in order to keep their families or themselves from starvation, but I believe it is due, as a rule, to a disregard of that professional honor that should be found in every man that belongs to the profession. These men forget or disregard the fact that they are professional men as well as business men,

and that there is such a thing as a dishonorable business. I can see no difference between bidding for pauper practice and bidding for the practice of individuals or families. That which prompts the man to bid is the same in all cases.

In my opinion, all bidding for practice, by physicians against each other, whether it be for pauper practice or the practice of individuals or families, is alike an open violation of the spirit of the code of ethics, and contrary to the plain decision of the American Medical Association, as expressed by the Judicial Council. I am sorry that there are so few that are willing, or who feel called upon to speak out against competitive bidding for practice; and also sorry to see any defend the practice, or touch the subject so feebly as to lead the advocates of bidding to construe their remark into a defense and justification of those that enter into competitive bidding for practice.

If the code of ethics is wrong or faulty, let that document be changed, but let us not disregard or openly evade it while it is the acknowledged code of rules and principles to guide us, and is believed to be all that is necessary if observed, to promote harmony and good feeling among physicians, and also between the latter and the public. The question is not whether the code is the best that could be devised, but whether bidding for pauper practice is in harmony with the code as it now stands, or is a violation of it.

Respectfully yours,

JOHN WRIGHT.

CLINTON, Ill., May 6, 1878.

REMARKS.—We are pleased to publish the above communication, because it affords us an opportunity to define more clearly the views we expressed on a previous occasion. The resolution of the Judicial Council in reference to bidding for practice, is so clear that there can be no doubt of its meaning, and we could have answered the question, "Is it a violation of the code?" simply by referring to this decision of the American Medical Association. But we wished to explain why this decision must be a dead letter. It tries to make the impossible, possible; to assume control over circumstances which are entirely beyond its reach. Suppose a workman with a large family needs a physi-

cian for an attack of sickness which requires daily medical attendance for five weeks. He is willing to pay a moderate fee, but unable to meet a bill of seventy dollars at the rate of two dollars a visit. Suppose the first physician the workman wishes to employ, strictly adheres to the customary fee, and declines attendance at a less rate, while another takes the case at one dollar per visit. Is this action of the second physician honorable or dishonorable? The case would assume a different phase if the first physician were employed at the regular rate, and the second tried to obtain the case by bidding below the former. This would be considered a mean and dishonorable act, even without a code of ethics.

We did not wish to defend any violation of the code, but we tried to show to our correspondent that an appeal to this code will not stop the practice of bidding he is so anxious to abolish. And we suggested to him a plan which, in our opinion promises better than the dictation of the Judicial Council. He should get his professional friends to unite their efforts with his in exposing the absurdity of a system which invites bids for medical services and lets the pauper practice to the lowest bidder in the same way as contracts for fuel are let. Corporations should establish a fixed salary for him who engages to attend paupers; then they will not have to select from inferior men, but from the best among all competitors.

In conclusion, we have to admit that our correspondent is right in what he says with reference to the words: "The physicians of every district should establish a fee-bill," etc. This quotation is taken from another document, and does not reproduce strictly the *letter* of the code—but it nevertheless expresses its *spirit*.—ED.

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## HOW TO MEASURE THE RELATIVE LENGTH OF THE LOWER LIMBS.

*Messrs. Editors :*

In the last issue of this *Journal*, Dr. Bartlett described an apparatus for measuring the relative length of the lower extremities, which reminds me of another method, for the same purpose, that recommends itself by its simplicity and accuracy.

The anterior superior spinous process of the ilium is carefully marked, on both sides with ink or a colored pencil, while the patient keeps a horizontal position in bed. He then, is directed to rise to his feet, and to assume as straight and natural a position as possible. Especially must both feet be brought into natural abduction, the heels touching, if possible, one the other. The practitioner who is standing at a distance of from two to three yards before the patient, will at once recognize the shorter leg from the lower position of the corresponding spinous process. An assistant should then put pieces of wood, one-eighth inch thick, under the foot of the shortened leg till the anterior superior spinous processes are on a level. The height of the wood block necessary to raise the lowered spinous process to the horizontal line, designates the accurate amount of shortening.

If the practitioner should not trust his eyes in judging of the symmetry of the pelvis, he can establish a very simple level by placing between the patient and himself a table whose edge will guide him in appreciating the horizontal relation of the marked processes, or he may resort to the instruments that stone-cutters use in similar cases.

I hardly need add that the measure of the height of the pile of boards on which the shortened leg rests, should be taken while the patient is standing on it.

I am satisfied that this simple method of measuring the shortening of the limbs, enables us to demonstrate very small differences, such as require no correction at all. Furthermore, if the measure is taken while the patient is erect, the full weight of his body forces the muscles and joints of the lower extremities to assume their natural position. We should thus be able to avoid the many errors to which Dr. Bartlett has called attention, as resulting from differences in adduction, abduction and flexion.

Altogether I regard it as a matter of some importance that the profession should agree upon a uniform method of measuring the shortening of the lower limbs. In cases of fracture of the femur, for instance, the question remains still unsettled, whether preference should be given to the use of Hodge's splint, the double inclined plane, the plaster-of-Paris bandage, or the weight and pulley. Each of these apparatuses has its advocate, yet a final

decision as to the *real* results obtained by each one, may only be expected, when, after the union of the fractured bone the relative length of both limbs is ascertained *in every case in the same manner*. I trust that the method described above, if fairly tested, will be found worthy of general adoption.

Respectfully,

HENRY BANGA, M. D.

CHICAGO, May 20, 1878.

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TREATMENT OF HERNIA.—The writer publishes four new cases of hernia, treated by his method of injection of 70 per cent. alcohol. After complete reduction of the hernia, he injects into the subcutaneous tissue around the hernial canal, the contents of one or two hypodermic syringes, and repeats this in the course of a few days. The canal is thus gradually surrounded by a ring of induration. Suppuration is a *desirable* result of the injection. During the treatment the patient can walk about with a truss. Of four cases of large hernia, the canal was obliterated in two and considerably narrowed in the other cases.—C. Schwalbe (*Deutsche Med. Wochenschr*; 1877. No. 45).

ANOTHER ECTROTIC IN SMALL-POX.—The powder consisting of four parts sulphur and precipitate, employed by Semaria with such success in eczema and acne, will, he now claims, prevent the unsightly cicatrization after variola. The suppurating pustules are to be first penciled with glycerine, and the powder afterward thickly strewed over them. The crust thus formed is cast off without leaving behind any cicatrices.—*Gazette Med. Ital. Lomb.*

## Reviews and Book Notices.

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### THE ADVANTAGES AND ACCIDENTS OF ARTIFICIAL ANÆSTHESIA.

Being a manual of anæsthetic agents, and their modes of administration, considering their relative risk, tests of purity, treatment of asphyxia, etc. By Laurence Turnbull, M. D., Ph. G., etc. Philadelphia: Lindsay & Blakiston, 1878. pp. 210.

Whenever the question of anæsthesia and the relative safety of the different anæsthetics is ventilated by a body of medical men, the desultory manner of the discussion is its most noteworthy feature. The earnestness with which the subject is discussed, and the great number participating actively in the debate, show the profound interest medical men take in this all-important question. While, on the other hand, the opinions of the different speakers, generally founded solely upon their limited personal experience, betray the fact that physicians are often ignorant of a great many things which have been published in relation to this subject of anæsthesia.

We do not make these remarks for the purpose of casting any reproach upon our professional friends; we simply wish to point to the fact that valuable information which is annually published in hundreds of medical periodicals in the different tongues of the civilized world, is practically inaccessible to the busy practitioner. A book, therefore, which presents this information in the condensed form of a small compendium, must be welcome to every physician, for it meets a great real want. A good compilation of this kind represents a vast amount of work, and also reflects the sound judgment of the author in critically sifting the material.

Such is the character of the little book before us. In a concise form, the properties and actions of the agents now used as



anæsthetics are exhibited; the best methods of their administration are well described, and directions added for prompt action in cases of asphyxia and other accidents. The question as to the comparative safety of the different anæsthetics (especially ether and coloroform), is thoroughly ventilated and impartially decided in favor of sulphuric ether.

If suggestions are admissible, we would remark that among the secondary effects of ether, the occasional occurrence of neuralgic affections should have been mentioned. The fact that neuralgia sometimes follows the inhalation of ether, seldom though it may happen, is of sufficient practical importance to deserve a place in a complete treatise on anæsthetics.

This excellent little work cannot be too warmly recommended to every busy practitioner who wishes to obtain much information by little reading.

F. C. H.

MODERN ORGANIC CHEMISTRY. By C. Gilbert Wheeler, Prof. of Chemistry in the University of Chicago. Chicago: Jansen, McClurg & Co.

The need of a good text book, devoted entirely to organic chemistry, has long been felt, both by teachers and students. The subject is one of such great extent, and of such practical importance, from its fruitful relations to the arts and to medicine, that the brief chapters usually devoted to it in works on general chemistry, are thoroughly insufficient for the needs of the conscientious student, while at the same time the elaborate volumes of Miller, Wöhler and others are too extended for general use. Prof. Wheeler's new work admirably fills the void, placing in our hands a clear outline of modern organic chemistry, at once compendious and yet giving an ample exposition of all important parts of the subject.

Considerable attention has been given to the medical relations of the different subjects treated of, giving the work an additional value to the student and practitioner of medicine. The chapter on the alkaloids is particularly full and will well repay careful study; for, as a general rule, far too little is known by medical men of the chemical relations of these highly important remedial and toxic agents. Claude Bernard's valuable table of the rela-

tive toxic, convulsive and soporific value of the different alkaloids in opium is reproduced, and is well worthy of careful attention and remembrance. The alcohols, with their numerous derivatives, many of which are put to such extended use in medicine, receive careful treatment, while the organic acids and bases are discussed clearly and at sufficient length.

We are sorry to see an occasional rather loose use of chemical terms, such as soda and potassa, where evidently sodic and potassic hydrates are referred to—of the ambiguous term hypnitric acid, etc. The subject of chemical nomenclature is in a state of such confusion, that unless one is careful to use exclusively either the old or the new system, the greatest perplexity may arise, especially in the minds of the beginner. While in conversation, or even in the lecture room, an occasional employment of the loose, old-fashioned names of chemicals may be quite admissible, yet in a text-book designed for accurate scientific training, their use can scarcely be too severely reprehended.

Typographically, the work reflects the very greatest credit upon its western publisher and printer. The impression is beautifully clear and distinct, the paper thick and softly tinted, the arrangement of the various tables admirable, while the almost unexceptionable accuracy with which the complex formulæ of organic substances is given, challenges our highest admiration.

W. S. H.

FORENSIC MEDICINE AND TOXICOLOGY. By W. Bathurst Woodman, M.D., F. R. C. P., and Charles Meymott Tidy, M.B., F. C. S., Philadelphia: Lindsay & Blackiston. 8vo.

We have examined this work with interest and find little in it to blame, while there is much that is worthy of praise. It forms a volume of 1,054 pages, of which about one half is devoted to Toxicology.

The first chapter gives the chief practical issues which arise for decision by medical witnesses, and then tells what principles should guide them in giving evidence in the courts.

Chapter second—comprising only four pages and a half—is an excellent one upon the examination of bodies found dead, and gives full directions how to make the proper *post mortem*. The

third chapter discusses very thoroughly "Signs of Death," and mentions that the Paris "Academy of Sciences," in 1873, offered a principal prize of 20,000 frs. "for the discovery of a simple and popular mode of recognizing the signs of real death in a certain and indubitable manner, a method which may be put in practice by poor uneducated villagers." Sixteen very practical pages are given to this subject.

Any physician reading these three chapters will more clearly apprehend the scope of this branch of medical science, and in the new interest and appreciation awakened in him will find ample recompense for his trouble.

Chapters fourth to eighteenth, inclusive, are devoted to Toxicology, and after careful examination we feel justified in saying that nothing has yet been written which gives so much information upon the subject and that in so clear and condensed a manner. In examining a poison the method of our author is to give:

1. The description of the substance.
2. Its different preparations.
3. Results of experiments on animals.
4. Dose, and symptoms of poisoning by it.
5. Treatment.
6. *Post mortem* appearances.
7. Tests.
8. Toxicological analysis.
9. Quantitative estimation.
10. A Table of cases of poisoning by the substance indicated.

This table is very valuable and gives in each case:

- (a.) The source from which it is quoted, the particular form of the poison taken and the amount.
- (b.) Symptoms.
- (c.) Result.
- (d.) *Post mortem* (if any).

One hundred and twenty-one cases of opium poisoning are thus given, eighty-nine of strychnia, and even under the head of poisoning by mushrooms we have fourteen cases. Other rare poisons are treated in the same careful manner, making the work, in this particular, highly satisfactory. It is gratifying to us, as

Americans, to find such liberal quotations from Wormley and other writers upon Toxicology in our own land.

Chapter nineteenth treats of the examination of hairs and stains. It teaches very effectively the employment of the microscope, spectroscope and chemistry for this purpose.

Chapter twentieth is upon life insurance, and contains a table of cases of disputed policies, with the medico-legal questions involved, and a list of some causes of sudden death.

Chapter twenty-first gives thirty pages upon "Personal Identity," and discusses, in a masterly manner, this subject—often a most troublesome one to the medical jurist.

The latter part of the book seems to us less carefully prepared than the preceding portions. There is valuable matter in each chapter, but it is neither well digested nor well arranged. For example: the subject of "Sexual Relations" is treated in chapters twenty-second and twenty-fifth, and quite imperfectly, while chapter twenty-fourth, upon "Malapraxis," is very strangely thrown in between the twentieth, upon "Pregnancy," and the twenty-sixth, upon "Premature Labor," which would naturally be expected to come together and to be immediately followed by those upon the "Sexual Relations"; and the subject of "Malapraxis" should follow that of "Wounds and Injuries."

The comparatively short space of one chapter is allotted to "Mental Unsoundness," and, although much valuable information is there given in a very condensed form, it is necessarily far from sufficient to satisfy physicians upon this most perplexing of all medico-legal subjects.

The same complaint may be made in regard to "Wounds and Injuries," to which but one chapter, the last, is devoted, whereas the subject is one of such undoubted and generally conceded importance, that a work of so high a character as that in hand should not have passed it by without an extended exposition.

As a whole, despite the defects to which we have considered it the duty of impartial criticism to call attention, we pronounce the volume before us an important addition to our medical literature, and cordially recommend it to the careful perusal of our readers.

Clear type, broad margins and tasteful binding give the book

an attractive appearance and bring it fully up to that high standard of typographical excellence established by Lindsay & Blackiston.

H. P. M.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, with the President's Address, at the First Meeting held at Niagara, Sept. 4, 5 and 6, 1877. N. Y.: G. P. Putnam's Sons.

This little pamphlet of 42 pages illustrates a new departure from the traditional procedure of scientific associations. Instead of publishing a large and expensive volume, which would have been read by few except those especially interested in such literature, the American Dermatological Association decided to permit its members to furnish their papers for publication to the various Medical Journals throughout the country. The result has been that these journals have been enriched during the year past with many valuable and important papers (two of them have appeared in the CHICAGO MEDICAL JOURNAL AND EXAMINER); and these papers have also been placed in the hands of many readers who would doubtless otherwise have never had the opportunity of perusing them.

As a consequence, the real transactions of the Association are contained in the present pamphlet, including the President's address, which furnishes an admirable sketch of the progress of dermatological studies in America. This last is enriched by a tabulated list of contributions to dermatological literature in this country, arranged under the names of authors; the list including the names of White and Wigglesworth of Boston; Duhring and Van Harlingen, of Philadelphia; Keyes, Otis, Bulkley, Piffard, Taylor and Bumstead of New York, and others whose writings are familiar to the profession in the United States.

We are inclined to believe that this method of utilizing the work done by societies devoted to the advancement of any special department of medical science, will meet with the approval of the profession at large.

J. N. H.

### BOOKS AND PAMPHLETS RECEIVED.

- Sixth Annual Report of the Secretary of State of the State of Michigan; Relating to the Registry and Return of Births, Marriages and Deaths for the Year 1872.
- Eulogy upon Lunsford P. Yandell, M. D. By Theodore S. Bell, M. D. Louisville, Ky. Reprint from *American Practitioner*, April, 1878.
- Old Age, Its Diseases and Its Hygiene. By Lunsford P. Yandell, M. D., Louisville, Ky. Reprint from *American Practitioner*, February, 1878.
- Typical Case of Addison's Disease, with Remarks. By George Ross, A. M., M. D. Professor Clinical Medicine, McGill University; Attending Physician Montreal General Hospital. Reported by Mr. H. N. Vineberg.
- The Paralysis of Potts' Disease; Being a Clinical Study of Fifty-eight Cases. By V. P. Gibney, A. M., M. D., Assistant Surgeon to the Hospital for the Ruptured and Crippled. New York. Reprint from *Journal of Nervous and Medical Diseases*, 1878.
- Transactions of the South Carolina Medical Association; 27th Annual Session, held in Charleston, S. C., April 10th and 11th, 1877.
- Prescription Writing, Designed for the Use of Medical Students Who Have Never Studied Latin. By Frederic Henry Gerrish, M. D., Professor of Materia Medica and Therapeutics in the Medical School of Maine, etc Second edition. Pub. Portland, Me.: Loring, Short & Harmon. Philadelphia: J. B. Lippencott & Co.

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THE *London Lancet* for May, 1878, contains an interesting communication from Dr. M. O. Jones, of Chicago, on the treatment of the vomiting of pregnancy, to which is added a note of a case by Dr. Marion Sims, who considers Dr. Jones' method of treatment important and worthy of more extended trial. It consists in pencilling the os uteri with the solid nitrate of silver. Usually but one application has been found to be necessary, and the gratifying relief which followed was obtained within twenty-four hours after the application.

Dr. Jones is to be congratulated on having his procedure introduced to the profession with such high endorsement.



### Summary.

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Collaborators: DR. H. GRADLE, DR. R. PARK, DR. L. W. CASE, DR. R. TILLEY.

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#### SYPHILIS.

ABSTRACT OF A SERIES OF FOUR LECTURES ON HEREDITARY SYPHILIS DELIVERED AT THE HOSPICE DES ENFANTS ASSISTÉS. By M. Parrot. (*Le Progrès Médical*, Nos. 44 and 47, 1877, and Nos. 1 and 4, 1878.)—Parrot introduces his subject with a brief sketch of the history of the literature of hereditary syphilis; commencing with Gaspard Torella (1498) and Matthiole (1536), who concluded that the disease was induced by the milk of infected nurses, and proceeds to the consideration of abortion due to syphilis.

Menstrual irregularities and suppressions in the subjects of syphilis, are thought by Fournier to be due to the anæmia and cachexia induced by the disease, precisely as other maladies operate to produce the same effect. In this result, however, Parrot believes the specific disorders of the utero-ovarian apparatus play an important part.

Abortion occurs in a little more than one-third of all pregnant women who are syphilitic. The epoch of the abortion depends upon the age of the syphilis in the woman, and, when recent, upon the period of pregnancy when infection occurred. The more complete the term of pregnancy when contamination happens, the fewer are the chances of abortion: at the fifth month, Parrot believes infection rarely interferes with the gestation.

According to Kassowitz, untreated syphilis of the mother for the first three years of the disease, always leads either to abortion or the birth of children which survive but a brief time. Bärensprung is of opinion that it is especially at the 3d, 4th and 5th months that these accidents ensue. Weber, in 1875, had observed

109 pregnant syphilitic women, one-fifth of whom aborted, generally between the 7th and 8th month.

Parrot, after citing various authorities, expresses no opinion as to the relative share of the parents in this premature expulsion of the fetus, but agrees with all observers in the conclusion that the condition of the product of conception itself is the immediate cause. Babington, Trousseau and Bäreusprung believed that the death of the fetus was the exciting cause; Kassowitz concludes that this is not essential, the greater or less disturbance of its nutrition being sufficient. The lecturer laid no stress upon the anatomico-pathological conditions of the placenta, inasmuch as these are not well understood.

In the matter of treatment, Weber found that 35 women treated by mercurial injection had a normal conclusion of gestation. Of those subjected to mixed treatment (with preponderent employment of potassic iodide) 20 per cent. aborted; of those who simultaneously ingested mercuric bichloride and potassic iodide, 15 per cent., while of those who took potassic iodide only, 36 per cent. aborted.

Exceptionally, the newly-born syphilitic infant bears the evidences of its disease upon its external surface; in such cases death usually supervenes rapidly. As a rule, the syphilitic child at birth appears to be healthy. It has a moderate degree of embonpoint, exhibits a rosy or slightly marbled tint of the skin, its flesh is firm, its cry vigorous, it takes the nipple well, its stools are normal and its urine clear and abundant. This lasts a fortnight, three weeks, or a month, and then the scene changes. A yellowish discharge from the nostrils accumulates around and obstructs their orifice. Suction of the nipple becomes difficult, painful, and accompanied by cries and agitation. The infant commences to waste. Soon the nates, the upper and posterior surfaces of the thighs, and the periphery of the mouth, the nostrils and the chin, become covered with an eruption. At the commissures of the lips, fissures and ulcerated papules form.

The eruption becomes rapidly more abundant and salient. Macules are replaced by red or rosy patches, sometimes of a violet tint, which has been compared to the color of the lean part of a ham, with depressed and greyish center, sometimes scaly or ul-

cerated, according to its location. Here and there, especially upon the face, brown or reddish crusts appear. The appetite is sensibly diminished; there are frequent stools and vomiting, the dejections of a greenish color and mixed with mucus. The flesh becomes less firm, the integument loses its tint of health, and has a wrinkled look. When the emaciation has somewhat advanced, by examining with the hand the tissues about the inferior extremity of the arm and the internal face of the leg, it can be determined that the humerus is thickened and the tibia is more voluminous than natural, as though something had been added to the thickness of the bone.

The phenomena which succeed are different, according as the disease assumes a chronic or rapidly fatal phase. In the former case, the eruption both extends to new portions of the integument and becomes more prominent where it had heretofore existed. The buttocks, scrotum, labia and thighs become covered with elevated and indurated patches, resulting in deep and extensive ulcers. From the eyes, the nose, the ears, and the facial lesions, a puriform matter escapes, which concretes into thick irregular crusts, producing a most repulsive aspect of the visage, whose features are also disguised by the swelling of the skin. The eyes become closed, the eyelids glued together, the nostrils obstructed and the lips, which are seamed with deep fissures, bleed on the least contact.

Just before death, a notable change occurs. All the lesions subside and lose color, the redness disappears and the discharge ceases. Only the crusts persist, and even these seem to have lost in volume. At this moment, one who considers the skin alone might conclude that there was an amelioration of the symptoms; in reality, death is imminent.

In the acute form, the phenomena last described are speedily noted. There is no time for the slow evolution of syphilis; some complication or intercurrent affection proves fatal, occasionally even before the identity of the specific disease has been established.

Death, however, is not a necessary result. Under favorable conditions of hygiene and treatment, recovery takes place; macules disappearing first, papules becoming depressed and

fading, ulcers healing, often with a permanent scar as the result. The processes of nutrition, temporarily disturbed, resume a normal activity, the flesh becomes firm and the skin assumes a healthy tint. It is the digestive tube which works this marvel, and it is to it, therefore, that the physician should chiefly direct his attention.

Parrot, reviewing the symptoms detailed above, recurs to the subject of the bullous syphilide, commonly called *pemphigus syphiliticus*, as the most precocious of these symptoms. occurring in a large number of cases at birth, and often dating back to the sixth or seventh month of intra-uterine life.

Seated generally upon the palms of the hands and the soles of the feet, it is also found upon adjacent parts, as the dorsal face of the fingers and toes, and the inferior surface of the leg (much more rarely upon distant organs such as the ear). In these latter cases, the eruption is usually tardy of occurrence, more discrete and less developed.

In the first few days after birth, the extremities are, as a rule, more deeply congested and colored than other parts of the body. Their hue is of a deep violet shade in the new-born affected with bullous syphilides, and venous red patches may be seen upon them, surrounded by a bright red areola, whose epidermis is speedily raised by the accumulation of liquid beneath, which transforms the lesions into bullæ of variable size. Their diameter may equal from two or three mm. to one and a half ctm. Their development may be rapid; and coalescence occur, forming a compound bulla, whose contour is formed by a series of segments of circles. Some resemble the pustules of variola, others contain a greenish fluid. The smaller ones are made tense by their contents: the larger are often partially filled merely, the roof of the bulla being partially collapsed upon the fluid contents beneath.

Two important points are to be noted: 1st, The bullæ most distant from the seat of election have always less distinctive features than others; they are fewer, smaller, and have less abundant yellow contents. Aborted lesions are to be seen near these, the epidermis being scarcely raised, and without subjacent fluid. 2d. The later the eruption after birth, the less distinctly marked is its type. Hence bullous syphilides, late of occurrence, and

seated elsewhere than upon the site of election, may give rise to doubts in diagnosis.

Once fully developed, a portion of the liquid contents may be absorbed and the remainder concrete into a brownish mass; or the cuticle may burst or become completely detached leaving an ulcer of various extent upon the corium beneath. These ulcers have a red and sanious floor, are not as a rule deep, but are sometimes crateriform and involve all layers of the skin. Generally at this time the subjects of the disease perish.

In the exceptional cases where a cure has been effected (noted by Depaul, Galligo, Stamm, Hertl, Ollivier and Ranvier), the general turgescence subsides, and the crusts fall, exposing an imperfectly formed epidermis, which is renewed after successive desquamations until it acquires sufficient firmness to persist.

Of all the cutaneous syphilides, the bullous appear at the most fixed time, and are also the most precocious. They have however been noted as late as the 7th and the 18th day, and even at the tenth week.

Bullous syphilides appear simultaneously, rarely by successive crops. Intervals of 15 and 19 days have yet been observed, during which time the lesions first to appear have been completely relieved.

There may be co-existence of other syphilides with bullæ, especially when the latter are tardy of appearance. The lesions are not, therefore, as has been taught, uniformly isolated. The minute, very red papules which are rapidly transformed into pustules, and termed "syphilitic ecthyma," are not really such, but constitute one variety of bullous syphilides. "Syphilitic rupia" belongs to the same category. There is really but one disease which requires to be differentiated from that under consideration. It is the pemphigus of the newly-born.

But pemphigus never commences on the palms of the hands and the soles of the feet. If it occur in these situations, it has always first appeared on the neck, axillæ, and upper surface of the thorax, its site of election. In the syphilitic form, the maculæ, which precede the bullæ, the skin from which they are developed, and their surrounding areolæ, are all of a violaceous tint; in non-specific pemphigus the color is a rosy red. The

latter, too, are larger and contain at the outset a transparent amber-colored serum, which never becomes purulent, made up eventually of water and protein granules with few epidermic cells and leucocytes. Afterward the fluid is either absorbed or results in a thin impetiginous crust, whose fall exposes a delicate layer of epidermis. In syphilis, the bullæ contain pus, and solid elements predominate in the form of fibrinous granules, pus globules, and whitish flocculi, which are the débris of the mucous layer of the epidermis. Then follows a brownish crust covering an ulcer of the corium. Lastly, syphilis may exist at the moment of birth; pemphigus rarely appears before the fifteenth day, and is frequently observed during the course of the first year.

Is this latter eruption really syphilitic? Parrot thinks it is so unquestionably. The earlier observers so considered it, and also many of those succeeding them. Some have believed it to be due simply to the cachexia engendered by the specific disease. But cachectic pemphigus is quite different in its date of appearance, seat, external phenomena, and histological lesions. As for the opinion that the disease is sometimes produced by syphilis and sometimes by another cause, Parrot dismisses it with a single sentence, and does not believe that when bullæ are the sole manifestation of syphilis, the diagnosis should be doubtful. Observation teaches this truth. In the large number of infants examined by the author, when pemphigus existed upon other regions of the body than the palms of the hands and the soles of the feet, no visceral nor osseous lesions were in any case discovered.

Exceptionally, a bullous eruption occurs in *acquired* syphilis, the "pemphigoid pustular syphilide," of Alibert. Ricord has seen this once on the soles of the feet; Bassereau once also on the palms of the hands. Zeissl in 20 years never saw it. Morgan reports one case, in a woman 26 years of age.

From this fact it will be seen that the bullous syphilide is peculiar to the newly born, and is one of the most characteristic evidences of hereditary disease.

GUMMATOUS TUMOR OF THE OCULAR CONJUNCTIVA. Dr. A. M. Berger. (*Aerztl. Intelligenzbl.* No. 17, 1878).—On Nov.



8, 1877, Mrs. M. H., aged 30, married for two years, consulted the Doctor on account of mydriasis of the left eye, which had occurred quite suddenly. The eye was not irritated; vision and fundus normal, only the pupil was completely dilated and immovable. At the same time a few copper-colored maculæ were noticed on the forehead, and although the patient denied any possibility of infection the suspicious maculæ suggested a constitutional treatment. Under the free use of iodide of potassium, and the occasional application of eserine, the mydriasis disappeared after three weeks.

But in January last, the lady returned with a squamous syphilide over the forehead, temples and eyelids; adenopathy, and a violent acute iritis. The peculiar feature of the case was a grayish white nodule at the inner margin of the cornea; it was 3 mm. broad and 2 mm. high in its center, gradually sloping off toward the cornea and sclerotic. The conjunctiva passed over its smooth surface. After one week of mercurial treatment this subconjunctival nodule began to get smaller, while, with an aggravation of the iritis, two small brownish condylomata appeared on the inflamed iris. On February 15, however, condylomata, gumma, and cutaneous syphilide had disappeared. The situation of the gumma was indicated by a yellowish discoloration of the sclerotic.

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#### DERMATOLOGY.

TREATMENT OF BROMIDE OF POTASSIUM ERUPTION. (*Br. Med. Jour.*, March 1878.)—Dr. Russell had a severe case of this trouble in the person of a young woman whom he was treating for epilepsy. The eruption was first papular, then pustular. By combining five minims of Fowler's solution with each dose of the bromide he completely overcame the annoyance and was able to continue the administration of the latter as long as he desired.

TREATMENT OF ACNE ROSACEA. (*Archives of Dermatology.*)—Narmann recommends a solution of one pt. carbolic acid in three or four parts alcohol, as an application to the diffusely reddened patches. It is not, however, of much service, when there is infiltration or vascular ectasis.

## SURGERY.

INTRACTABLE HERNIA REDUCED BY ESMARCH'S BANDAGE. *L' Année Médicale* reports two interesting cases of Hernia successfully reduced by Esmarch's bandage. Place, Hôtel Dieu, Caen, France ; Surgeon, M. Dennis Dumont ; Assistant Surgeon and Reporter, M. Chapelle.

Case 1.—A. J. B., Journalist, sixty years old. Subject to hernia for ten years. It came down rarely and was returned without difficulty. On the occasion in question it came down the day before he appeared at the hospital, and refused to yield either to the efforts of the patient or the physician.

Examination revealed a left inguinal scrotal hernia, pyriform and about the size of the fist. Color of skin not changed. General state of patient not sufficiently serious to induce the assistant to send for the surgeon—no fever, no vomiting.

A warm bath was administered, extending over an hour, and taxis tried; no result. Injections were employed and compresses of ice water kept over the tumor.

Next day vomiting occurred; general state not alarming. M. Dennis Dumont administered chloroform to complete muscular relaxation. Taxis resorted to but in vain. Esmarch's bandage was then applied as follows: The end was placed over the pubis and held there by the patient; the bandage was then brought down into the left groin under the scrotum, and by three or four circular turns the scrotum was enveloped as far as the penis. Then the penis being enclosed, the bandaging, by means of reverses, was continued pretty tightly as high up as the pubis. The bandage was then secured by means of pins and then carried round the loins.

At the end of an hour the patient had heard the rumbling noise characteristic of reduction. An evacuation of the bowels occurred almost immediately afterwards, and the hernia did not reappear.

Case 2.—A widow, seamstress, forty-two years, constitution pretty robust; entered same hospital Dec. 31, 1877. Had occasionally been troubled with a tumor in the groin for a long time.

It appeared on the least exertion, and disappeared as readily when she assumed the horizontal position. On this occasion it came without the least exertion and could not be forced back as before. She exhibited a left femoral hernia about the size of a hen's egg, hard, and below Poupart's ligament. The abdomen was tympanitic, not painful on pressure, but vomiting had occurred.

The surgeon tried taxis without chloroform, and with chloroform pushed to complete muscular relaxation; no success. The state of patient was not alarming. The elastic bandage was again used thus: A graduated compress was placed over the tumor and a spica bandage applied pretty tight. At the end of two hours the hernia was completely reduced.

This method of the reduction of hernia does not appear to have been adopted much in this country, but in a conversation with Dr. Andrews, he stated that the late Dr. Sherman, of this city, spoke to him of its having been accomplished at least six years ago.

#### TREATMENT OF TRANSVERSE FRACTURE OF THE PATELLA.—

At a late meeting of the London Clinical Society, the President, Mr. Callender, exhibited a case of the above treated as follows: A sheet of plaster, fitting the thigh, was made to extend to the upper margin of the patella. Through loops on either side of that bone, extension was made to a canvas slipper, so that the upper fragment was drawn down to the lower. This apparatus was left on after the patient was able to walk about.

[While the above extension was made by pulleys, according to the report, it is probable that some elastic material would answer the purpose equally well, if not better, and at the same time be more simple in design and construction.—REP.]

CONCERNING EPITHELIOMA OF THE SKIN.—Busch. (*Arch. F. Klin. Chir.*)—B. considers that the first hypertrophic layers of epidermis caused by any irritant, prevent the newly formed epithelial cells from pushing up towards the surface as they should do, and cause their accumulation and development downward. Reasoning thus, he has used a very weak solution of soda to

soften the layers whenever he sees signs of incipient epithelioma. The solution is made 1 pt. soda in from 40 to 100 pts. water. After the growth is removed, he uses a still weaker solution as a prophylactic. Busch has succeeded in thus removing growths of this nature, even when an ulcer had formed. He also recommends the same measure for the removal of the epithelial collections often found about the nipples of old women, and for preventing their recurrence.

INTRAVENOUS INJECTION OF MILK — A SUBSTITUTE FOR TRANSFUSION. — (*N. Y. Med. Jour.*, May, 1878.) — Dr. T. G. Thomas, in a paper with the above title, puts forward very cogent reasons why hope should not be abandoned in the class of cases where transfusion of blood, although indicated, is impracticable, until the simple operative procedure of injecting milk into a vein has been tried. He gives first a short *résumé* of the history of transfusion, and then shows that milk is not, after all, so very different from blood, or from the chyle which is poured into the blood. He finds that Dr. Hodder, of Toronto, first resorted to the injection of milk in 1850, in three moribund cases of Asiatic cholera, and that two of them recovered. A year ago Dr. Howe, of New York, pursued the same course in a case of inanition accompanying tubercular disease, but without more than ephemeral success.

Without detailing Dr. T.'s cases, we will only say that he has employed the method in three cases. One made an excellent recovery, the second died of exhaustion, attending suppuration, and the third of prolonged interstitial hæmorrhage. The life of the first was certainly saved, while a longer lease of life was given to the other two than they would have otherwise enjoyed.

Dr. T. alluded to the experiments of Dr. Howe upon dogs, and accounted for his uniform failures on the ground that he had used milk which had stood for several hours; whereas it was most essential that the milk should be absolutely *fresh*. The author sums up with these propositions:

1. The injection of milk is feasible and safe.
2. Only milk removed from a healthy cow, and within a few

minutes of its use, should be used. Decomposed milk is as dangerous as decomposed blood.

3. A glass furnished with a rubber tube attached, ending in a very small canula, the whole scrupulously clean, is in every respect preferable to the more elaborate apparatus used in transfusion.

4. The whole proceeding is vastly more simple than transfusion, and offers positively no difficulties.

5. The injection of milk, like that of blood, is commonly followed by a chill, and rapid rise of temperature; these symptoms, however, quickly subside, and improvement follows.

6. The measure is indicated not merely in cases prostrated by hæmorrhage, but in disorders which greatly depreciate the blood, like cholera, pernicious anæmia, typhoid fever, and as a substitute for diseased blood.

7. Not more than eight ounces of milk should be injected at any one operation; this, however may be repeated as occasion requires.

Any accessible vein may be selected; perhaps the cephalic is preferable.

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#### THERAPEUTICS.

SODIC SALICYLATE IN DIABETES MELLITUS. Ryba and Plumert. (*Präger Med. Woch.*).—These authors have reached the following conclusions: 1. In daily amounts of two drachms, it determines a decided diminution in amount of sugar excreted. 2. The best results are to be derived from more recent cases. 3. The above diminution may be made more striking by restricting the hydrocarbonaceous elements of the diet. 4. The polyuria usually yields consentaneously with the glycosuria. Other diabetic symptoms (e. g. bodily weight) are favorably influenced. In two cases the symptoms were at first aggravated, but soon yielded, under this treatment.—*Dublin Jour. Med. Sci.*

CERII OXALAS IN CHRONIC COUGH. (*Practitioner*, April, 1878.)—Dr. Thomas Clark considers this drug to be purely sedative, and therefore a great desideratum in treatment of lung diseases, inasmuch as it does not disturb the digestive tract—the only unpleasant subjective feature of its use being occasional dryness of the mouth. In gr. v. doses he has found that it will relieve many harrassing coughs, irrespective of the pathological conditions which cause them. Dyspnœa is usually relieved at the same time. He claims that relief for a period of twenty-four hours often follows a single dose taken before rising in the morning.

GLICERINUM IN TREATMENT OF INTERNAL HÆMORRHOIDS. Dr. G. P. Powell, (*The Practitioner*, April, 1878).—Dr. P. commends very highly the administration of glycerine in this most annoying complaint. He gives  $\mathfrak{zj}$  ad jss *ter in die*, together with a little citric acid and anodyne p. r. n.; or it may be flavored with tinct. cardamom. comp.

He leaves the explanation of its beneficial effect to others, while he is convinced that in such cases—especially the hæmorrhoids of drunkards—it is a most efficient therapeutic agent.

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#### PRACTICAL MEDICINE.

METALLOTHERAPY.—Much interest has been aroused by Charcot's investigations into Burq's system of metallotherapy. The latter's theory was that plates of metal placed upon the skin have the property of altering general and special sensation and cutaneous vascular supply. He found that a patient sensitive to one of the metals used—gold, silver, copper, iron, zinc, would not be to another. Burq also claimed that the metal to which a patient was susceptible, was the proper therapeutical agent to be employed in his case.

Charcot got results strikingly corroborative of the above. His patients were marked examples of aggravated hysteria or hystero-epilepsy; and with the metal for which they evinced a peculiar idiosyncrasy, administered *internally*, he succeeded, in



four patients experimented upon, in restoring or improving general sensation, increasing muscular power, and bringing back cutaneous circulation. The first case took gold and sodium, the second gold and zinc, the third gold, and the fourth was sensitive to copper, and took the hydrated binoxids, and a mineral water containing a copper salt.

Unfortunately M. Maguan and Dr. Westphal have been unable to obtain like results, and Charcot himself has met with some failures.—*London Medical Record*.

DIGITI MORTUI. (*N. Y. Medical Recorder*, May 11th, 1878.)—At a recent meeting of the New York Neurological Society, Dr. McBride reported a case of the above disease, with remarks upon its symptoms, course, pathology, and literature. The latter we give for those who may be interested in looking it up. It was first described by Brodie in his lectures on "Local Nervous Disorders," (pub.) 1837. Since then it has been referred to by Huston, 1836; Raymond, 1862, 1872, 1874; Nothnagel, 1866; Estlander, 1870; Fischer, 1875; and by Dr. McLane Hamilton, in the *N. Y. Medical Journal*, Oct. 1874.

The author considered the trouble to be a *vaso-motor* reflex, depending upon increased irritability; that it indicated a nervous system of great mobility, but, otherwise, was without significance. His treatment comprised the direct and induced currents, and alternate hot and cold douches.

DARK AND DARK GREEN URINE FROM EXTERNAL USE OF CARBOLIC ACID.—M. M. E. Kirmisson, in *La France Médicale*, describes a number of well-marked cases of dark and dark green colored urine, from the external use of carbolic acid. There seems to be no special danger in connection with this appearance. M. K. concludes, however, that as soon as the phenomenon is observed, the use of carbolic acid should be modified. The differential diagnosis between the dark urine from the use of carbolic acid, and the dark urine from certain hepatic troubles, is to be found in the general condition of the patient.

## Translation.

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### ON CERTAIN SENSITIVE TROUBLES OF MESO- CEPHALIC ORIGIN.

BY DR. COUTY (*Gazette Hebdomadaire*, Nos. 1, 3, 4, 1878).

(Translated from the French by Lafayette W. Case, M. D.)

We have studied in a former article (*Gaz. Hebdom.*, 1877, Nos. 30, 34, 36, 38) a variety of hemi-anæsthesia, qualified as *mesocephalic*; and we have studied this morbid form apart, the better to show the existence of a new type of hemi-anæsthesia, differing by its anatomical and symptomatological characters from the types already known—cerebral and medullary. It seems necessary to us to now show that other sensitive troubles, anæsthetic or hyperæsthetic, of variable and complex forms, may be produced by other lesions of the mesocephalon; and we shall see, moreover, that this second memoir completely confirms the deductions drawn from the facts contained in the former one.

#### I.—General Anæsthesia.

We have indicated (loc. cit., p. 570) cases sufficiently numerous of lesions of the central portions of the pons varolii, seated more or less forward, in the superior and inferior layers, not having brought on any sensitive trouble; from this we have concluded that the inter-crossing of the sensitive fibers in the pons varolii had no definite track, since whichever one of these median points of inter-crossing was destroyed, the sensitive functions remained intact, in consequence of a substitution. But other cases exist where lesions occupying the same median portions of the pons varolii have, on the contrary, determined considerable sensitive troubles, of *general anæsthesia*; we will report briefly a few of them.

Case I. (Josias, *Thesis* of 1851, case II.) Insane woman of Charenton; apoplectiform attack; afterwards, contractions of the muscles of the face; difficulty of pronunciation, but paralysis of the four limbs and *complete insensibility of both sides*.

Some hours after, possibility of movements of the limbs, and very obtuse sensation; later, asphyxia, death.

*Autopsy*.—Hemorrhagic spot in corpora striata; cerebral peduncles as if crushed and replaced by a mixture of blood and cerebral matter. If the pons varolii be cut, it is found replaced by a detritus of blood and nervous pulp, the effusion being equally pronounced to the right and left. Cerebellum and bulb intact.

The lesions have been less extensive in the following cases:

Case II. (Nunneley, *Union Méd.*, 1860, t. vii., p. 381.) Sixteen years; loss of senses; complete insensibility; pupils equal, contracted, insensible to light; paralysis incomplete of movements and of sensibility of the two sides of the body; head hot; elsewhere temperature natural. Death after seven hours.

*Autopsy*.—At the center of the pons varolii, but encroaching especially to the left side, a clot half the size of a walnut.

Case III. (Kirschberg, *Thesis* of 1835, case X.)—Loss of senses, intelligence, general sensibility abolished; paralysis of four limbs; pupils contracted; pulse hard and slow; face congested. Death fifteen hours after.

*Autopsy*.—In the center of the protuberance, hæmorrhage of the size of a small nut had made an irruption towards the cerebellar peduncles and in the fourth ventricle.

The thesis of Kirschberg contains two other cases of general anæsthesia; case III, seat, center of pons; case XI, right half of the pons and portion of inferior layers of the left half destroyed; and we might report others; that of Magnan, incomplete anæsthesia due to a hemorrhagic collection below the *processus cerebelli ad testes*, (*Soc. Anatom*, 1861); that of Cornil (*Soc. Anat.* 1860, p. 201); two others indicated by Longet (*Anat. et Phy. du Syst. nerv.*, t. i, p. 439), and also case I. of Hayem's *Memoir on Basilar Emboli* (*Archiv. de Phys.*, 1868, p 270), with a clot of one centimeter on a level with the origin of this artery, etc., etc.

But, in the majority of these cases, cases which it would be easy to multiply, the patient was paralyzed and comatose, so that the general insensibility may be regarded not as the direct effect of the lesion of the sensitive conductors, but as a trouble dependent upon the loss to the coma of the cerebral functions. To this objection we respond that in numerous cases reported in our first article, cases to which, we believe may be joined most of the cases of ordinary hemiplegia, the patients had retained their sensibility on one or both sides, although the paralysis or even the coma were complete, which clearly proves that these states, except at the latest period, are not sufficient to produce anæsthesia. We would respond especially in citing other cases of lesions of the pons analogous by their seat, and having determined also general anæsthesia, in spite of the complete absence of troubles of the intelligence, of the functions of the perceptive organ. Such are the following cases :

Case IV. (Bourceret, *Soc. Anat.* 1847, p 448).—In February 1845, the right half of the body became "griped" says the patient, always cold, and his limbs feebler; besides the patient squints and sees double. In May, he entered the hospital for a right pleurisy; strabismus diplopia, taste perfect, but general sensibility notably diminished; movements of limbs feeble and difficult, then left facial paralysis.

Still later the gait becomes uncertain and finally impossible, speech difficult, and this moment the insensibility is complete and general. Death, the end of June.

*Autopsy.*—At the posterior inferior part of the pons, at a level with its point of junction with the cord, a hard kernel the size of a nut, situated to the left but invading a little, the right half of the pons.

In this case there had been at the beginning alternate hemiplegia; this trouble so frequently connected as we have shown (*Gaz. Hebdom.*, 1877, p 602) with mesocephalic hemi-anæsthesia, may also co-exist, then, with general anæsthesia.

This general insensibility, without intellectual trouble has been also noted in four of the cases of lesion of the pons reported by Longet; we will cite only the following :

Case V. (2nd of Longet's *Syst. Nerv.*, t. 1., p. 440.)

Woman; gait staggering as in drunkenness; then total loss of motility and sensibility. Excited; she felt nothing; placed on one side, she remained so until moved; she lost her sight completely without opacity of the corneas; she lost taste, hearing, smell, and life, in relation to external things; seemed extinct a month before her death.

*Autopsy.*—The posterior half of the mesocephalon has become scirrhus, lardaceous (unfortunately no exact localization).

We believe we should, on account of its symptomatological analogy, add to the preceding cases the following very clearly observed, and where the diagnosis, obstruction of the bulbar arteries, unfortunately not verified by an autopsy, has been made by a nervous pathologist of the value of M. Joffroy.

Case VI. (*Gaz. Méd.*, 1872, p. 494, and *Bulletin de la Société de Biologie*.) Man; 5th of March, right amblyopia; 20th of March, difficulty of swallowing without paralysis of movements; 22nd March, paralysis of left limbs, contraction of jaws; 24th March, incomplete left hemiplegia, drawing of patient to right; *cutaneous sensibility completely abolished* over the entire surface of the body; sense of taste normal; vision and hearing very much dulled on right side; lips, tongue immovable; difficulty of opening mouth and of swallowing; salivation; superior portion of face only movable; intelligence enfeebled; micturition involuntary; cardiac lesion. From the 1st to the 26th of April, anæsthesia disappeared; right eye and ear always feeble; left hemiplegia complete; right paresis without increase of temperature of limbs; paralysis. August 1st, notable amelioration, but always cold.

To this case of labio-glosso-laryngeal paralysis of apoplectic form, as M. Joffroy has called it, we might join a very analogous case published in the *British Med. Journ.* and analyzed in Hayem's review (t. ix., p. 152); and also another of M. Hérard (*Union Médicale*, 1868), which is distinguished from the preceding ones by the absence of sensitive troubles.

Now how shall we make these cases where we see lesions of the pons, either median, central or medio-lateral, bring on general anæsthesia, agree with those reported in our former memoir, where lesions of the same points have not brought on any sensi-

tive trouble? Shall we be content by proving simply that lesions of the median portions of the mesocephalon sometimes entail loss of sensibility and sometimes leave it intact? No, for in spite of their contradictory appearance, these two groups of cases complete, in confirming each other. Given, cases of hemi-anæsthesia due to a lateral mesocephalic lesion of the opposite side, and cases of median lesion of the pons without anæsthetic trouble, we have concluded that the sensitive conductors from the face, and even some of those of the trunk, cross each other in the mesocephalon, but without following a fixed course, each point of the intercrossing being capable of being supplied by its unaffected neighbors. Now we understand perfectly that if the lesion of the median portions of the pons be too extensive, of itself, or by consecutive phenomena of compression, the sensitive fasciculi crossing each other are either all affected, or those left intact are insufficient; and then there follows anæsthesia, not hemiplegic, as in cases of lateral lesion, but bilateral, general; this anæsthesia will rarely be complete, more often imperfect, as in cases I, II and IV, or tardy and temporary, as in cases IV and VI.

General anæsthesia is then possible in certain cases of extensive lesion of the median portions of the pons and bulb; but it seems capable of existing also in certain cases of unilateral lesion of the prolonged cord. We will only cite the following: general anæsthesia of the body, but not of the face, with deafness produced by hemorrhagic effusion having destroyed the inferior surface of the cerebellum, and extending upon the lateral parts corresponding to the medulla oblongata and pons varolii (Ollivier, case LV, of the thesis of Prevost, 1868), diminution of the sensibility, at first bilateral, in both hands, then unilateral of the left side, produced by a cavity of the right half of the bulb, at a level with its middle part and of its posterior layers, back of the olive in the restiform body and the intermediary fasciculus (*Hallopean, Soc. de Biologie*, 1869, p. 171); general anæsthesia from hemorrhagic effusion in the right inferior cerebellar peduncle (*Nonat. Gaz. Hebdom*, 1861, p. 57). M. Vulpian has also obtained general anæsthesia from unilateral lesion of the bulb in some of his experiments upon the origin of the bulbar nerves, for example, in Experiment I. (*Mémoires de la Société Biologie*, 1861).



This trouble of the sensibility is also somewhat frequently noticed in the thesis of M. Gouguenheim (*Anevrysme des Artères du Cerveau* 1866) in the cases which have relation to the arteries of the mesocephalon; but one may conceive that a tumor as diffuse as an aneurism even when seated on a lateral artery, the vertebral, cannot be of great utility as regards pathogenesis.

The mechanism of these general anæsthesias from unilateral mesocephalic lesion, is easy to understand in the cases where, as in those of Ollivier and Hallopean, the conductors have been destroyed near the median line over a considerable extent; it is evident, indeed, that the sensitive fibers, after having crossed each other on the median line, remain mixed, confounded, on each side, over a space of greater or less extent. But there are other cases, that of Nonat, for example, where the general anæsthesia is caused from a lesion of the inferior cerebellar peduncle, a conducting fasciculus which we have shown by a case (*Gazette Hebdomadaire*, 1877, p. 410), may be completely destroyed without producing any sensitive trouble, from which it results that, in the cases analogous to that of Nonat, the general anæsthesia, not being the direct and constant effect of the lesion, should be explained either by a mediate compression of a neighboring organ, or by one of those disturbing actions from a distance, usually called irritative, of which the mechanism has quite recently been so well exposed by Brown-Séquard (*Archives de Physiologie*, 1877, p. 411, 415).

Without insisting further we may conclude that *general anæsthesia* is nearly always produced by a median lesion of the pons and bulb (protubero-bulbaire), and we pass to another form of mesocephalic anæsthesia not less interesting.

## II.—Alternate Hemi-anæsthesia.

We have described in our former memoir a variety of mesocephalic hemi-anæsthesia of one entire side, face and limbs; and produced by a lesion of the pons or of a peduncle of the opposite side, the lesion being upon their external fasciculi and sometimes in less complete cases of their posterior fasciculi. We have reported these cases separately the better to demonstrate the

existence of a mesocephalic type of hemi-anæsthesia, comparable as to localization of cutaneous sensitive troubles, with cerebral hemi-anæsthesia, and from these cases we have concluded that the sensitive fibers originating in the face intercross each other between the bulb and the pons. But let us suppose that the lesion of the pons, instead of being seated tolerably high up in the external fasciculi, be more extended in breadth, lower down, and that it invade the bulbar sensitive glands or their afferent fibers: then the anæsthesia will occupy the members and trunk of the opposite side; but in consequence of the lesion of the glands or bulbar sensitive nerves, it will occupy the face of the same side; the hemi-anæsthesia will be alternate, and this special form realized by the experimental physiologists (Vulpian, *Soc. de Biologie*, 1861, memoir cited; Lussana and Lemoigne, *Archives de Physiologie*, 1877, p. 382), has been observed in several pathological cases.

Case VII. (Carré, *Gazette Médicale*, 1834, p. 569). Sick seven years. Muscles of left side of face paralyzed; ocular, buccal, nasal and lingual mucous membrane of left side insensible when pricked with pen; skin of face sensitive on entire right side and to the left only on a level with and behind the auditory conduit; vision remains; audition enfeebled; buzzing in the left ear; smell and taste diminished on left side but not noticeably so. The left side of the body is normal; the movements of the right side are incompletely paralyzed, and the sensibility there is almost extinct; speech is difficult. Later these symptoms become worse. Sudden death.

*Autopsy.* The left side of the annular protuberance affected in its entire thickness and considerably augmented in volume, and transformed into a black, lardaceous tissue; the nerves of the vicinity are more or less altered; the trifacial, the sixth pair, are confounded in the tumor; the facial, the acoustic, the glosso-pharyngeal, appear compressed and flattened. The cord and brain are intact.

Alternate hemi-anæsthesia has not been less clearly shown in the following cases.

Case VIII. (Brown-Séquard, *Jour. de Phys.*, v. i., p. 537, *Annam.*)—Twenty-eight years. Acute pain of right side of

face, then loss of senses; complete paralysis of left arm, incomplete of left leg; anæsthesia of left side of body; right facial paralysis; anæsthesia of right side of face and of the ear; inflammation of right ear at the end of several weeks; difficulty of deglutition and mastication; deviation of tongue to the right.

*Autopsy.*—Semi-cartilagnous fibrous tumor of right side of pons, extending to the place of origin of the fifth pair in the pons covering the origin of this nerve and the entire right side of the pons, descending below this origin as far as the inferior third of the medulla oblongata; the surface of the root of the middle cerebellar peduncle, the pons at its level, the right anterior cord in contact with the tumor, etc., are softened, etc., etc.

Case IX. (Brown-Séquard, *Journ. de Phys.*, t. vii, p 631). Considerable diminution of motion and sensibility of the left members and right face; right conjunctiva vascular; voluminous cyst of right side of pons.

There appears also to have been alternate hemi-anæsthesia in this other case borrowed from M. Gubler.

Case X. (Case XI, of the first memoir of M. Gubler, *Gaz. Hebdomadaire*, 1876, p 752). Thirty-four years. In February, 1876, paralysis of sensibility and motion of left face; a little later, complete paralysis of sensibility and motility in the limbs of right side; the left limbs also appear troubled but in less degree; a little contraction to the right; phonation and deglutition difficult. Death.

*Autopsy.*—Several fibro-plastic tumors, one of which, situated in the thickness of the pons to the left of the median furrow, has produced softening all around; two others exterior on the same side of the pons varolii.

These four cases suffice for proving the existence of an alternate hemi-anæsthesia of mesocephalic origin, quite comparable with the alternate hemiplegia so well studied by M. Gubler: Anæsthesia of one side of the body and of the face on the opposite, an anæsthesia not only of the skin but of mucous membranes also, of the eye, inside of cheek, nose, of taste, and above all of audition on the same side, but which may spare the skin on a level with, and especially back of the ear, that is to say beyond the territory of the trigeminal. It appears to us useless then, to report other

analogous cases, such as those indicated by Brown-Séguard, (*Journ. de Physiol.*, t. vii, p 307, 637); another more complete of Jodin, (*Journ. de Physiol. de Magendie*, 1826) with left hemiplegia and hemi-anæsthesia, complete deafness, paralysis of taste and smell; and finally one of Guillaume, where the course and topography of the anæsthesia were still more complex. (*Progrès Méd.* 1873, p 293.)

It will be remarked that all these cases except perhaps case IX, unfortunately very incomplete, have their point of departure in a neoplastic lesion, a tumor; perhaps we must conclude from this, that hemorrhagic effusions capable of determining this assemblage of symptoms would be in an organ so important as the bulb, too extensive to be compatible with life, so that this symptom is only possible in lesions of a chronic course, as tumors. And the proof of the probability of this interpretation is that we shall find sudden lesions, but less diffuse, in still another form of mesocephalic anæsthesia still more limited, a veritable diminutive of the preceding; and we shall be able to draw from the preceding cases, anatomico-physiological deductions which can only be made after the study of this last form of mesocephalic anæsthesia.

### III.—*Limited Anæsthesias.*

The preceding facts show that a lesion invading at the same time the pons and the sensitive nuclei of the bulb as in case VIII, or, in the pons, both of the external commissural fasciculi and the emergent fibers of the bulbar nuclei as in cases VII, IX, X, determines an alternate hemi-anæsthesia; but suppose the lesion less extensive, situated further back and above on a level with the floor, and then, the sensitive commissural fibers not being invaded, we have the following symptoms:

Case XI. (Heydenreich, *Soc. Anatom.*, 1875, p. 131).—B., 24 years, syphilis for three years; for three months, vomiting; right eye but little movable; nomonymous diplopia; right side of face paralyzed; tongue slightly deviated to the right, flexible, flabby on this side; speech embarrassed, hesitating; sight remains, bottom of eye intact; *less sensibility of the right side of*

the face, intact in limbs, feebleness of right arm and leg, violent head-aches.

*Autopsy.*—Tubercular meningitis; caseous tumor, size of large hazelnut had hollowed out a lodgement at the expense of the pons and the superior portion of the bulb, resting on the superior part of the deformed and non-recognizable fourth ventricle, encroaching slightly upon the cerebellum.

In this case, the lesion was limited to the level of the floor of the fourth ventricle. In the following, it appeared to have been carried rather upon the fibers of the trigeminal in their course through the pons:

Case XII. (Stiebel, *Med. Chi. Trans.*, 1863, t. xlv). Eleven years; bronchitis. June 23rd, headache, nausea; 25th, cephalalgia of left side, left ptosis, right angle of mouth deviated, left pupil dilated without visual trouble, no paralysis of extremities; 29th, head turned to the right; *anæsthesia of left side of face*, constant cephalalgia; 30th, convulsions, death.

*Autopsy.*—Left cerebral peduncle at a level with the pons thickened and softened; it contains the opening of an abscess filled with pus, mixed with pulp-like cerebral substance. The abscess, perfectly circumscribed behind the pons, a point at the level of which is found the remains of a hemorrhagic clot, 90 lines in length, 40 in its greatest breadth; it leaves the origin of the sixth pair at a distance of one line from its internal limit.

The lesions seem to have been a little more diffuse in the following case:

Case XIII. (Stanley, cited by Brown-Séquard, *Journ. de Phys.*, t. ii., p. 130.) Cephalalgia, left hemiplegia of body, *left hemiplegia of face with corresponding loss of sensibility*, mucous membrane of left side of nose and left conjunctiva injected, hearing lost on left side, erysipelas frequent in the paralyzed portions of face.

*Autopsy.*—Tumor the size of a walnut in the left side of the pons, extending into the middle cerebellar peduncle at a level with the origin of the fifth and seventh pairs which it compresses.

Without reporting other cases more or less complete of bulbar lesions, having determined *anæsthesia of the corresponding side*

of the face, for example that of Baeltz (case XLIV. of the thesis of Hallopeau), case VIII. of Gouguenheim, another case abridged by Brown-Séquard (*Journ. de Phys.*, t. vii., p. 307), a case of Cassy and Lorreyte (*Bull. de la Soc. Anat.*, 1874), we would remind the reader that experiments have for a long time shown the reality of this facial hemi-anesthesia by a unilateral lesion of the bulb of the corresponding side. If cauterization of the floor practiced by Cl. Bernard, but superficially, has not appeared to induce any serious trouble (*Syst. Nerv.*, t. i, p. 296), M. Vulpian (*Leçons sur le Syst. Nerv.*, p. 511), and long before Magendie, have proved that this facial hemi-anæsthesia takes place after a transversal hemi-section of the bulb, and they have explained it rightly by a lesion of the descending root of the trigeminal; and Brown-Séquard, going further, has been able to determine facial anæsthesia in removing only the restiform body of the corresponding side (*Bull. de la Soc. de Biol.*, 1855, p. 337).

But the dissociation of symptoms may be still more complete; and the anæsthesia from mesocephalic lesion still more limited.

It is so in Hallopeau's case XLVIII., borrowed from Gubler; in another case published by Bordier (*Gaz. des Hôp.*, 1866, p. 561), the patients presented with symptoms of labio-glosso-laryngeal paralysis, an anæsthesia very clearly limited to the velum palati, that is to say, to the glosso-pharyngeal.

In other cases, on the contrary, the anæsthesia has been limited to one sense—to the hearing.

Case XIV. (Voisin, *Soc. Anat.*, 1863, p. 486.)—Fifty-two years; epileptiform attack, then loss of knowledge. The next day some movements were possible, but the speech was confused; the tongue deviated to the right, the right side of the face paralyzed and the *hearing dull on this side*. The following days the intelligence returned completely. The limbs only simply paretic; but always a right facial hemiplegia, with *deafness of this side*. Later, pleurisy, death.

*Autopsy.*—Tumor at the level of the convergence of the basilar and vertebral arteries, constituted by a clot the size of a goose quill. If section be made of the pons on a line with the point of emergence of the facial, softening exactly confined to the right half, limited by the intact peduncular fibers, prolonged by a



slender point toward the anterior face, more widely toward the middle cerebellar peduncle and the fourth ventricle, without reaching its wall which appears intact. Total length, 25 millimeters; breadth, 15 millimeters.

From this case we may go to the following, reported by Brown-Séquard, unfortunately very incomplete:

Case XV. (Gairdner, *Journ. of Phys.*, vol. vii., p. 637.)—Difficulty of speech; left pupil dilated; imperfect vision (perhaps due to the pupillary dilatation) and deafness.

*Autopsy.*—Tumor the size of a pullet's egg in connection with the right cerebellar peduncle, the right half of the pons, of the bulb and of the cerebellum (that is to say evidently situated upon the posterior superior face of the pons and bulb).

These facts prove the importance of troubles of audition in mesocephalic lesions, an importance which however has been often noticed. It is thus that M. Lancereaux indicates the existence of auditory symptoms in a state of unique isolated sensitive derangement, as one of the frequent signs of obstruction of the arteries of this region (Lancereaux, thesis, 1862, p. 60), and to the preceding, may be also added numerous other cases of general paralysis, of ataxia, of sclerosis in patches, mentioned by Magnan (*Gaz. des Hôp.*, 1870), by Lionville (*Bull. de la Soc. de Biol.*, 1870), by Hayem (*Bull. de la Soc. de Biol. et Gaz. Méd.* 1876), by Pierret (*Revue Mensuelle*, 1877, No. 2), etc., etc.; cases in which one side of the face, one sense, the taste, the ear have become alone anæsthetic, often on one side only, as in the second case of Pierret, evidently as the result of a lesion also limited in the points of origin or in the mesocephalic track of the corresponding nerves.

If, then, sensitive troubles are lacking, as is known in the cases of systematic bulbar lesion, labio-glasso-laryngeal paralysis, descending sclerosis, etc., etc., it is seen that these troubles are, on the contrary, frequent in cases of more diffuse lesions, ramollissement, tumor or dissiminated sclerosis; they may affect forms the most various, and to sum up, anæsthesia produced by a lesion of the pons or bulb may be generalized, hemiplegic, alternate, or more limited, to one trigeminal, one glasso-pharyngeal, or one auditory nerve. But all these cases of alternate hemi-anæsthesia,

or of anæsthesia limited to one side of the face, to one sense, anæsthesias due to a unilateral lesion of the pons or bulb, admit of other more important deductions.

We have seen in cases VII, VIII, IX, X, XI, XII, XIII, the facial sensibility disappear on the side where either the origin of the trigeminal or its emergent fibers have been injured; exactly as in the experiments of Magendie, Vulpian, Brown-Séquard, Lussana and Lemoigne, on hemi-section of the bulb; ablation of the restiform body, etc. Now from these cases, where a lesion situated either in the point of origin, as in case XI, or along the course of its emergent fibers, as in cases VIII, XII, XIII, has determined not a diminution of sensibility of the whole face, but a complete and unilateral anæsthesia *in the side corresponding to the lesion*, we conclude that the fibers originating from the point of origin of the trigeminal do not cross each other in their intra-bulbar portion; their course is direct from the point of origin to the corresponding side.

Experiments (Cl. Bernard, Syst. Nerv., t. ii; Vulpian, Leçons sur le Système Nerveux) have proved the bulbar origin of the auditory fibers without indicating their course; from these cases where we see, as in cases VII, VIII, XI, XIII, the hearing affected on the same side as the face, or alone, but on one side only, corresponding to a unilateral lesion of the pons and bulb, as in Voisin's case, should we not conclude that the fibres springing from the point of origin of the auditory nerve have also a direct course and do not intercross?

Without denying the existence of very intimate relations between two sensitive points of the bulb, of the same nature, we believe we may affirm that, given the preceding facts, these relations, at least as regards the trigeminal and auditory, are not established, as has been admitted, by an intercrossing of the emergent fibers: these emergent fibers go directly from the point of origin to the corresponding organ, and their lesion determines a unilateral anæsthesia of the same side.

Now, are these sensitive nuclei put in relation with each other by direct commissural fasciculi, analagous with those of which M. Vulpian has established the existence for the facial (*Bul. de la Soc. de Bôl.*, 1861, in the memoir cited)? We may conceive this

to be so, our experiments cannot enlighten us on this point; but it is sufficient for us to have established by facts this direct course of the sensitive fibers between the bulb and the face, a course which in our former memoir (*Gaz. Hebdom.*, 1877, p. 600) we had supposed to be demonstrated, intending to return to this point. And after having thus terminated the history, or rather the indication of certain forms of mesocephalic anæsthesia, we pass to another order of sensitive troubles not less curious; *mesocephalic hyperæsthesias*.

The hyperæsthetic sensitive troubles to which Brown-Séquard long since called special attention, if we refer to the numerous cases we have gone over, appear to us more frequent in the cases of mesocephalic lesions than in analogous lesions of the brain; and as with mesocephalic anæsthesias, they are also distinguished from hyperæsthesias of cerebral origin in that they may affect the most various forms.

#### IV.—General Hyperæsthesia.

Hyperæsthesia may be general as in the following cases which we hastily sum up.

Case XVI. (Gobert, cited by Brown-Séquard, *Journ. de Physiol.*, t. i., p. 526.) A fall at seven years of age; since then unsteady gait, cephalalgia, smell perfect, sight diminished, especially in right eye, hearing rather more sensitive; spontaneous pains in limbs, at first on right side; *sensibility exaggerated over whole body*; paralysis of right limbs, then of left; extremities cold, deglutition difficult; death.

*Autopsy*.—On the median line, level with the vermiform process and fourth ventricle, a cystic tumor of the size of a hen's egg, compressing the left lobe of the cerebellum, having burrowed a deep lodgement in the peduncle of the same side, in the interior of the ventricle as far as the tubercular quadrigemina slightly atrophied; pons deviated, etc.

The lesion and the symptoms were quite analogous in the following cases:

Case XVII. (Mignot, *Gaz. Hebdom.*, 1875, p. 827.) Incomplete amaurosis, deviation of the eyes, fixed occipital pain, *sharp*

pains in the limbs, exaggerated venereal desire, more exalted cutaneous sensibility.

*Autopsy.*—Hydatid cyst of cerebellum the size of an egg, incarcerated in the left lobe.

Case XVIII. (Laborde, *Soc. Anat.*, 1863, p. 343.) Fourteen years, staggering, tendency to fall backward, curvature of body to the right, left convergent strabismus, lancinating erratic pains in lower limbs, and cutaneous hyperæsthesia, vomiting, slight amblyopia.

*Autopsy.*—Tubercle the size of a walnut on the inferior surface of right lobe of cerebellum in the amygdala, compressing the origins of the pneumogastric and glosso-pharyngeals; a second tumor in the right half of the pons in its central portion.

The lesion appeared to have been still more limited, and in appearance still more limited to the cerebellum in the following case, unfortunately very incomplete, like the preceding, in an anatomical point of view.

Case XIX. (Andral, *Clinique*, t. iii., p. 716.) Pulmonary phthisis; rigidity of the head drawn back; limbs and senses unaffected, only cutaneous hyperæsthesia, on pressure and on motion; left side of face paralysed; conjunctiva red on this side.

*Autopsy.*—Tubercle the size of a hazelnut on the middle portion of the external face of the left lobe of the cerebellum.

These diverse observations and especially the last, would tend to lead us to regard general hyperæsthesia as a trouble of cerebellar origin; but in the first cases the cerebellar lesion was seated at a level with the fourth ventricle, more or less compressed, as shown by the autopsy; and given symptoms of direct facial hemiplegia, inflammation of the conjunctiva of this side, it is probable that even in Andral's case, the bulb, the origins of the facial, the trigeminal, were also interested. We are then lead to explain these cases of general hyperæsthesia, following a cerebellar lesion; not by this lesion itself, but by consecutive troubles of the pons; and we shall see that general hyperæsthesia may indeed be due to a lesion occupying solely the floor of the fourth ventricle towards the union of the pons and the bulb, the cerebellum remaining intact.

Case XX. (Sandberg analyzed in *Hayem's Review*, t. ix).—

Notable feebleness of certain muscles; oblique gait; passing paralysis of right arm; abdominal pains, *cutaneous hyperæsthesia*.

*Autopsy*.—Pia mater thickened in certain points, especially towards the base; hemorrhagic clot having destroyed the floor of the fourth ventricle with extravasation into its cavity.

Case XXI. (Extracted from thesis of Hallopeau, case XXXV, p. 108).—Sixty-three years. July 5th, vomiting; impossibility of swallowing and of standing, then incomplete paralysis; intelligence intact. July 6th, he entered service of M. Proust, trembling of hands very marked; patient staggers, totters, especially left side; *hyperæsthesia* of lower limbs. The next day, sudden death.

*Autopsy*.—Arteries especially in encephalon, atheromatous; left vertebral artery rigid, obstructed one centimeter from its junction with the basilar, by a discolored, yellowish clot, one centimeter in length; but leaving free the postero-inferior cerebellar which originates rather low down.

These pathological cases would perhaps be insufficient if we could not join to them experimental facts. Brown-Séquard has shown that section of the cerebellar peduncles, ablation of the restiform bodies, all lesions occupying only a level with the fourth ventricle, determine general hyperæsthesia (Brown-Séquard, *Bull. de la Soc. de Biol.*, 1855, p. 337); M. Vulpian has also obtained general hyperæsthesia in some of his experiments on the floor of the fourth ventricle (*Bull. de la Soc. de Biol.* 1861); and to sum up, in all cases of general hyperæsthesia cited above, there appears to have been always a lesion either direct or more often mediate and consecutive, of the floor of the fourth ventricle. We are then lead to conclude that this hyperæsthetic trouble with this generalized form is one of the symptoms of *lesions of this region of the floor of the bulb and pons varolii*.

It will also be remarked that, if in several of these cases, as in cases XVI, XVIII, XX, there has been staggering or curvature, a tendency to fall backward, etc., the real paralytic symptoms have been either lacking, as in cases XVII, XVIII, XIX, or very late, as in case XVI.

V.—*Hemi-hyperæsthesia.*

We will now analyze other cases, where the lesion, instead of being seated back of a level with the fourth ventricle, is situated higher up, in the antero-inferior layers of the pons; and with this difference in the location of the anatomical lesions we shall establish differences not less great in the sensitive or motor derangements. There will be hemiplegia, and not derangement of co-ordination, or general paralysis; there will be *hemi-hyperæsthesia*, and not general hyperæsthesia. The concomitant hemiplegia has been most often alternate.

Case XXII. (Senac and Millard, *Gaz. Hebdom.*, 1856, p. 816).—March 18th, loss of knowledge, then hemiplegia of left limbs; right side of face and intelligence intact. The 20th, slight meandering of movements in left limbs, a little contracted; patient complains of *sharp pains* in paralyzed limbs; left forearm cannot be extended without sharp pain. The following days, amelioration, then new aggravation of symptoms, and death the 1st of April.

*Autopsy.*—Upon the inferior face of the annular protuberance to the left of the median line, a hemorrhagic clot the size of an almond had destroyed the pyramidal fasciculus to the extent of five millimeters, being prolonged toward the middle cerebellar peduncle.

We will only recapitulate the following cases:

Case XXIII. (Hillairet, *Soc. de Biol.*, 1860, p. 116).—Right facial paralysis; left limbs, sensibility rather exaggerated in left leg; pleurisy. Death.

*Autopsy.*—Central hemorrhagic clot,  $2\frac{1}{2}$  centimeters, had destroyed middle layer, and invaded inferior layer of pons.

Case XXIV. (Martineau, *Soc. Anatom.*, 1860, p. 311).—Former palpitations. July 7th, cephalalgia, creeping sensations on left half of body; incomplete hemiplegia of left limbs and right face; 8th, sensibility preserved and even exaggerated the slightest movement of left lower extremity causing the patient to cry out; later, pleurisy, then pericarditis. Death the 18th.

*Autopsy.*—Back of the tubercula quadrigemina, in the pons, sanguineous clot in the middle and lower layers, extending toward



the right middle cerebellar peduncle, about two centimeters in diameter; bulb and cerebellum intact.

Not to report other cases, unfortunately not followed by autopsies, and where the hemi-hyperæsthesia has also coincided with alternate hemiplegia, and with other symptoms surely of the pons; cases due to M. Gubler (case V of his first memoir), to Meynert (analyzed in *Hayem's Review*, t. iii., p. 62); we will cite other examples of hemi-hyperæsthesia, with direct hemiplegia.

Case XXV. (Proust, cited by Déchery, Thesis, 1870).—Slight paralysis of left face, then complete of limbs of same side; sensibility, instead of being diminished, increased in arm and leg. Insensibility of velum palati; paralysis of pharynx and tongue.

*Autopsy*.—Clot in superior extremity of left vertebral, distending the artery and prolonged into the postero-inferior cerebellar.

There was also direct hemiplegia in the following case of Abercrombie, a case where the hemi-hyperæsthesia, although only complained of subjectively, appeared none the less real.

Case XXVI. (Longet, *Syst. Nerv.*, t. i., p. 446.) Thirty-seven years. March 23rd, diminution of respiratory amplitude on right side of thorax; 25th, giddiness, numbness of entire right side, heaviness and creeping sensations of right limbs; 30th, right ptosis, uneasiness, stiffness in the arm and leg of same side. Death.

*Autopsy*.—Cavity the size of a large hazelnut, filled with a clot, burrowed partly in the pons, partly between it and the cerebellum, most upon the left side.

Finally, the form of the hemiplegia did not appear to have been noted in the following observation, and also in another of Huguier (*Soc. Anatom.*, 1829, p. 53).

Case XXVII. (Josias, Thesis, 1867, case I.) April 6th, apoplectiform attack, then left hemiplegia; tongue deviates to right; *sensibility, the state of which was investigated several times, appeared more acute on the side paralyzed*. Death the 23rd.

*Autopsy*.—Clot the size of a hazelnut, occupying right side of pons, near the anterior fasciculi, but somewhat distant from the bulb and the posterior fasciculi.

To sum up, hemi-hyperæsthesia is complained of by only one of

the patients and after diverse excitations; or there is produced spontaneously, as in cases XXII, XXIV, XXVI, creepings, lancinating pains in the paralyzed parts: this hemi-hyperæsthesia has occurred tardily, as in cases XXII, XXVI; it has then persisted until death, but apparently diminishing in certain cases; or it has disappeared completely, as in the case of M. Gubler; or it has given place to hemi-anæsthesia, as in the case of Meynert. This hemi-hyperæsthesia occupies all one side of the body, the side opposed to the mesocephalic lesion; which differentiates it, as shown by Brown-Séquard, from hyperæsthesia by medullary hemi-section. The cases are too incomplete to say anything regarding the condition of the face or of the special senses.

In an anatomical point of view, the hemi-hyperæsthesia has been produced by a hemorrhagic lesion, more rarely embolic; this lesion always occupying the pons, unilateral, or at least the most considerable upon one side.

This unilateral lesion occupies the middle and anterior layers of the pons, as Cases XXII, XXIII, XXIV, XXVII prove; there is then a very clearly defined anatomical difference between this hemi-hyperæsthesia and general hyperæsthesia, which is always produced, we have seen, by a lesion of postero-inferior portions of the mesocephalon, by a lesion of the fourth ventricle, either primitive or consecutive to a cerebellar lesion.

Comparison of the two cases, XXI and XXV, both of M. Proust, indicates very well this difference of location, since we see an obstruction of the left vertebral determine general hyperæsthesia when it is situated one centimeter from the basilar, (Case XXI); and hemi-hyperæsthesia (Case XXV) when it occupies the origin of the basilar artery itself.

Hemi-hyperæsthesia also has anatomical characters very different from those of hemi-anæsthesia. Hemi-anæsthesia has often been caused by tumors, and we have not found a case of hemi-hyperæsthesia of neoplastic origin. Hemi-anæsthesia, in the cases where it has been complete, has been produced by a lesion extending by preference towards the posterior portions, and especially invading always more or less the lateral portions, the external fasciculi of the pons; now, in hemi-hyperæsthesia the lesion occupies on the contrary the anterior and middle layers, and above all

this lesion always somewhat extensive, is central, median, internal and not lateral, as is expressly indicated in Cases XXII, XXIV, XXVI; the effusion extends toward the middle cerebellar peduncle and not toward the superior; it is situated to one side, within those external fasciculi, a lesion of which determines as we have shown in our first memoir, complete hemi-anæsthesia.

Brown-Séquard (*Journ. de Physiol.* t. i. p. 530, 760) has attributed this hemi-hyperæsthesia to an irritation of the gray matter of the pons. With Brown-Séquard, we admit in these cases an irritation; but is this irritation one of the gray matter? We have cited, in our first memoir, a large number of cases of median lesions of the pons, even extensive ones, not having brought on any sensitive derangement; we have reported above, other cases of lesions still more extensive, situated especially in the posterior layer of gray substance, and having brought on general anæsthesia, because they destroyed all the sensitive decussating region not leaving a place for substitution; now, we could not explain why lesions of the same nature, hemorrhagic, of the same gray matter, have determined in certain cases only, irritation with hyperæsthesia and, in others more numerous, negative or anæsthetic symptoms.

This first point being even admitted, from the fact that a unilateral irritation of a portion of the gray matter of the pons has determined a hyperæsthesia limited to the opposite side of the body, we should conclude that this gray substance has clearly localized functions; and would not this conclusion be in discord with the numerous cases in which we have shown the possibility of a substitution between the diverse regions of the gray matter of the pons, in that which regards the sensitive functions.

In presence of these facts, especially if we remember that the lesion in hemi-hyperæsthesia, a lesion of the pons, anterior, interior and median, has extended towards the lateral parts into the middle cerebellar peduncle towards these external fasciculi, the lesion of which, we have shown, produces complete hemi-anæsthesia, we shall be forced to attribute this opposite hemi-hyperæsthesia to an irritation, from a clot situated in contact with them, of these same external white fasciculi, sensitive conductors of the peduncle and pons.

When the effusion destroys these postero-external fasciculi, there is opposite hemi-anæsthesia ; when the effusion, nearer the median line, does not affect these fasciculi except by inflammatory lesions, most often consecutive lesions of vicinity, there will be hemi-hyperæsthesia ; and thus are explained the symptomatological particularities mentioned above ; the hemi-hyperæsthesia has always been produced by a hemorrhagic lesion, never by a tumor, the course of which has been too slow ; hemi-hyperæsthesia, most often, only occurs some days after the apoplexy, when the inflammatory irritation has had time to be produced ; the hemi-hyperæsthesia may diminish or cease with the irritation ; finally, it is accompanied or preceded by formication, sharp lancinating pains in the limbs, and even, as in the case of M. Gubler, with veritable trifacial neuralgia, with neuralgia pains in the opposite limbs, with inflammatory swelling of the foot. There would veritably be in these hemi-hyperæsthesias, as in peripheric neuralgias, an inflammation of a white sensitive fasciculus ; only this fasciculus is commissural, myelencephalic ; the neuritis is central ; and thus this hemi-hyperæsthesia would enter into the class of neuralgias of central origin, a class much more numerous than is supposed, as M. Vulpian has quite recently shown. (*Léç. sur les Mal. du Syst. Nerv.*, 1876, p. 4.)

We will now report two cases where the hyperæsthesia from an irritative lesion of the mesocephalon has been still more limited, confined to the face ; these two cases should, moreover, be joined to the cases of facial hemi-anæsthesia collected above, as we have already compared hemi-anæsthesia and hemi-hyperæsthesia.

Case XXVIII. (Hallopeau, *Arch. de Physiol.*, 1876, p. 795.) Serv. Millard, thirty-six years. Diastolic cardiac souffle. June 3rd, violent cephalalgia ; 4th, incomplete left facial paralysis, with paresia of the adductor of right eye. The *sensibility seemed exaggerated in the paralyzed half of the face* ; motility is enfeebled in right arm, this paresis being accompanied with a sensation of numbness ; 6th, paralysis of left face and right limbs more complete ; state of sensibility not noted ; 8th, paralysis extends to the left leg, and is even more complete ; 11th and 12th, dyspnoea. Death.

*Autopsy.*—Upon the floor of the fourth ventricle, to the left

of the median furrow, on a line with the *eminentia teres*, an ecchymosis two millimeters in diameter; superjacent to a rounded spot of softening, five millimeters in diameter, situated exactly at the place of origin of the facial abductor. The other parts of the encephalon healthy; obliteration of the extremity of the left vertebral by an embolus from the heart; the clot projecting into the basilar, and prolonged into the infero-posterior cerebellar.

In this case the facial hyperæsthesia occupied the side corresponding to the lesion, and there was a feeling of numbness in the arm of the opposite side. This case of hyperæsthesia then is comparable with the cases of alternate hemi-anæsthesia which we have collected above, and the sensitive troubles of the face should be attributed to the irritation, not as in the preceding cases, solely of the sensitive commissural fasciculi, but of the points of origin of the trigeminal or the peripheric fibers which lie in contact. There was also a lesion of the radical fibers of the trigeminal in one of the experiments of M. Vulpian upon the floor, where he proved hyperæsthesia of the ear of the same side.

In another case, reported by M. Laségue in his interesting analysis, the hyperæsthesia is still more remarkable from its course, seat, etc. Unfortunately no autopsy.

Case XXIX. (Bastian, *Arch. de Méd.*, 1876, p. 335).—Thirty years. Sharp pains in forehead and left limbs; paralysis at first of the left arm, and then general; face drawn to the right. Loss of hearing, of deglutition, of speech (evident signs of a mesocephalic lesion). After three weeks, voice and hearing return; sensibility absent in limbs of left side, as well as smell of same side; on the contrary, the *left face is hyperæsthetic*. The temperature is generally lowered on left side. There was afterward progressive diminution of the paralytic symptoms, sensitive and motor, of the left side.

We have found no other cases of facial hemi-hyperæsthesia from mesocephalic lesion; but it appears evident to us that more complete research would furnish several. Nor have we found a case where the hyperæsthesia instead of affecting the cutaneous sensibility, had affected one special sense only. We should remember, however, that in those of our cases where the anæsthesia, what ever its form, is accompanied by deafness, this deafness has

been preceded several times by buzzing in the ears, and even real pain ; and symptoms of the same order are noted in several cases of sclerotic lesion, bringing on the deafness mentioned above, for example, in case II of M. Pierret already cited, etc. There is then an auditory hyperæsthesia of mesocephalic origin ; and consequently it is possible that this symptom may be encountered as an isolated, sensitive trouble.

We terminate here this enumeration of sensitive troubles of mesocephalic origin, troubles, moreover, of which the greater part have already been indicated and studied by Brown-Séquard : we do not pretend to have made it complete and certainly other clinical forms may be realized ; but it suffices us to have called attention to some well defined syndromes in the double point of view, anatomical and clinical ; opposite hemi-anæsthesia, alternate hemi-anæsthesia, general anæsthesia, limited anæsthesia, general hyperæsthesia, hemi-hyperæsthesia, etc.

Although having insisted but little upon the anatomical localization of these sensitive troubles, waiting to collect and point out precisely these facts in the following conclusions, we have not feared to draw sometimes from a small number of cases important deductions ; for unless admitting that the same lesion may determine different effects, for proving a constant relation, a law, it needs not numerous observations, but precise ones.

Unfortunately many of the cases that we have collected are very incomplete, and some, even those for example, where a lesion of the pons nearly median and of little extent has determined a slight hemi-anæsthesia, remain contradictory until new observations more precise permit us to either reject or interpret them ; and in the mean time we must admit, that at the beginning of these somewhat extended researches upon mesocephalic sensitive troubles, we did not expect facts so completely comparable by their lesions and their symptoms. We did not expect to be able to arrive at conclusions certainly incomplete, but we believe them, exactly and sufficiently precise ; and yet should we have only indicated the *desiderata*, this study would have seemed to us sufficiently useful.

(a.) To recapitulate, from the point of view of the anatomical nature of the lesion, and in order of frequency, the hemorrhagic



effusions have determined all the kinds of sensitive troubles enumerated above; tumors have produced only general *anæsthesia*, hemiplegic or limited; vascular obstructions have caused once general *anæsthesia*, tolerably frequent hyperæsthetic derangement. Finally, in rare cases variable sensitive symptoms, oftenest not well limited, have been produced by lesions of neighboring organs, aneurisms, abscesses, alteration of the membranes; and also diverse lesions of the cerebellum; this last organ not appearing to us to act upon the sensibility except in interesting the mesocephalon.

(b.) The seat of the lesion is especially important: it is this which determines the form, the localization of the sensitive trouble.

In no case has the lesion been limited to the bulb; nearly always the *pons*, the sensory perceptive organ (Vulpian, Longet), has been interested, alone or conjointly with a neighboring organ.

Sensitive troubles are perhaps more frequent in lesions of the posterior layers of the *pons*; but the situation of the lesion in a point more or less above, or more or less distant from the median line, is especially important.

An internal lesion of the *pons*, median, unilateral, bilateral, even extensive, whatever be its level, determines usually only motor symptoms; and it is only when this internal or median lesion occupies the posterior parts especially, and is very extensive in a vertical direction, that general *anæsthesia* is met with: if this median lesion, of slight extent, but of special nature, irritative, and often then consecutive to a cerebellar lesion, reach the floor of the fourth ventricle, there may be general hyperæsthesia.

A lesion of the external fasciculi of the *pons*, or of their peduncular prolongations, brings on opposite hemi-*anæsthesia* of face and limbs, the same external lesion seated a little lower, of the bulb and *pons*, or more diffuse, occupying nearly one side of the *pons*, determines alternate hemi-*anæsthesia*, face of same side, limbs of the opposite side; finally, there are some cases of unilateral, facial or auditory *anæsthesia*, from limited lesion of bulb and *pons* of the same side.

An intermediary lesion, often antero-lateral, located towards the middle cerebellar peduncle, extending towards the external fasciculi, without destroying them, produces opposite hemi-hyperæsthesia.

(c.) Troubles of the senses, inconstant and variable in our cases, which are very incomplete in this respect, affect especially the hearing, sometimes the taste, without it being possible to indicate their relations with such and such anatomico-symptomatological forms. They are often unilateral, and then occupy, according to the height of the lesion, the same side if the lesion is inferior, or the opposite side if it is situated higher up.

Alterations of the trigeminal, or paralysis of the muscles of accommodation, etc., explain certain exceptional cases of derangement of sight or smell.

(d.) Paralytic affections of the voluntary muscles have affected the most variable forms, general or bilateral paralysis, simple hemiplegia, or alternate, or ocular, etc., without it being possible to show a constant relation between the form of the motor paralysis or that of the sensory troubles; and thus alternate hemiplegia very frequently has coincided with all the modes of sensory troubles studied above.

(e.) The temperature has often been diminished in the anæsthetic parts, whether the anæsthesia be general, hemiplegic or alternate; the state of the temperature has been too rarely, too incompletely noted in hyperæsthesia to make any deductions therefrom.

These conclusions confirm, in many points, results already indicated by the experimentors or anatomists, Foville, Longet, Vulpian, Cl. Bernard, Brown-Séquard, Meynert, Charcot, etc.; and to sum up, we believe we can admit physiologically that the fibers lying in contact with the bulbar nuclei are direct; that other fibers furnished by all the bulbo-medullary nuclei of one side decussate by means of the median gray matter of the pons, with those of the opposite side, going to constitute an external commissural fasciculus of the peduncle and pons.

## Medical News and Items.

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THE PHONOGRAPH opens up a vista of medical possibilities delightful to contemplate. Who can fail to make the nice distinctions between every form of bronchial and pulmonary râle, percussion, succussion and friction sounds, surgical crepitus, foetal and placental murmurs, and arterial and aneurismal bruit, when each can be produced at will, amplified to any desired extent, in the study, the amphitheater, the office and the hospital! The lecturer of the future will teach more effectually with this instrument than by the mouth. The phonograph will record the frequency and characteristics of respiratory and muscular movements, decide as to the age and sex of the foetus in utero, and differentiate pneumonia from phthisis. It will reproduce the sob of hysteria, the sigh of melancholia, the singultus of collapse, the cry of the puerperal woman in the different stages of labor. It will interpret for the speechless infant, the moans and cries of tubercular meningitis, ear-ache and intestinal colic. It will furnish the ring of whooping-cough and the hack of the consumptive. It will be an expert in insanity, distinguishing between the laugh of the maniac and the drivel of the idiot. It will classify dysphasic derangements, such as ataxic, amnesic, paraphasic and akataphasic aphasia.

It will recount, in the voice and words of the patient, the agonies of neuralgia and renal calculus, and the horrors of delirium tremens. It will give the burden of the story of the old lady who recounts all the ills of her ancestors before proceeding to the era of her own. More than this, it will accomplish this feat in the ante-room, while the physician is supposed to be busying himself with his last patient.

Last but not least, it will simultaneously furnish to the medical philosopher, the grateful praises and promises of him who is convalescent from dangerous illness, together with the chilling accents in which, later, the doctor is told that he must wait for his remuneration till the butcher and the baker have been paid.

THE third annual session of the *Arkansas State Medical Society* convened in Adelaide Hall, in the city of Fort Smith, Wednesday morning, May 1st, 1878.

Dr. A. N. Carrigan, President, delivered the annual address. He congratulated the Society upon the favorable auspices that surrounded them at this meeting; spoke of its standing before the American Medical Association; referred to the late struggle before this body, of the success it had met with, and the good that had resulted to medical science throughout the State, by the interest awakened through the agitation caused by the rival effort for recognition.

He spoke of malarial influences throughout the State that would probably be relieved by proper hygienic measures, and for this object recommended the establishment of a Board of Health by the General Assembly of the State.

The session lasted two days, and a great number of interesting essays were read.

The officers for the ensuing year are: President—A. A. Horner, of Phillips County. Vice-Presidents—T. W. Hurley, of Benton County; W. H. Hawkins, of Little River County; J. S. Shibley, of Logan County; Isaac Folsom, of Lonoke County. Secretary—R. G. Jennings. Assistant Secretary—L. P. Gibson. Treasurer—A. L. Breysacher. Librarian—J. H. Lenow.

Next place of meeting, Little Rock, the first Wednesday in May, 1879.

THE rise and progress of what is called the science of therapeutics is merely, I believe, a modern development of professional credulity.—W. LANDER LINDSAY, M. D., F. R. S. E., *Medical Times and Gazette*, March 16, 1878.

THE Alumni Association of the College of Physicians and Surgeons in the city of New York, offer for the following year a prize of (\$500) five hundred dollars, open for competition to all alumni of the college. It will be awarded to the best medical essay submitted, if deemed sufficiently meritorious, upon any subject which the writer may select. The essay, in order to compete, must be based upon *original investigation*. Each essay must be marked with a device or motto, and accompanied by a sealed envelope, similarly marked, containing the name and address of the author. Essays must be submitted to the Prize Committee on or before Feb. 15th, 1879. They may be sent directly to any of the committee, at the college, care of the Secretary. The committee consists of Drs. Henry B. Sands, Wm. H. Draper and Frank E. Beckwith.

ONE thousand four hundred married women accompanied 10,827 British soldiers to the Madras Presidency in India, and produced 2,900 children, now living, not one of whom has had syphilis. This speaks favorably for the English plan of allowing a certain number of wives to accompany each regiment; as nearly 20 per cent. of the Indian troops suffer from venereal disease.

THE thirteenth annual report of the Chicago hospital for women and children, which has just made its appearance, is a gratifying exhibit of the work accomplished by this deserving charity. We observe eight typographical errors in the physician's report that occupies but little more than one page, and could wish that these had been corrected in a feminine postscript.

THIS is the last number of Volume XXXVI. The index will be mailed with the first number (July) of the next volume.

If any of our patrons, whose time expires this month, do not wish to continue their subscription, they may obtain the index by notifying us.

WE have to express our obligations to Prof. N. S. Davis of Chicago, for the report prepared by him and published in this number, of the proceedings of the Illinois State Medical Society.

# ANNOUNCEMENTS FOR THE MONTH.

## SOCIETY MEETINGS.

Chicago Medical Society—Mondays, June 10 and 24.

Chicago Society of Physicians and Surgeons—Mondays, June 3 and 17.

## CLINICS.

### MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz—2 p. m., Prof. Jones.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—2:30 p. m. Dermatological and Venereal, by Dr. Hyde.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

### TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Lyman; 2:30 p. m. Surgical, by Prof. Parkes.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

### WEDNESDAY.

County Hospital—2 p. m. Gynecological, by Dr. Bridge.  
3 p. m. Ophthalmological, by Dr. Montgomery.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Dr. E. Fletcher Ingals.

### THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

### FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Quine; 2:30 p. m., Surgical, by Prof. Powell.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

### SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Centrl Free Dispensary.

For schedule of lectures at the colleges, apply to the college janitors.



